BULLETIN OF THE
UNIVERSITY OF NEW HAMPSHIRE

CATALOG

1933-1934

Durham, New Hampshire

The University of New Hampshire and the New Hampshire College of Agriculture and the Mechanic Arts

DURHAM · NEW HAMPSHIRE

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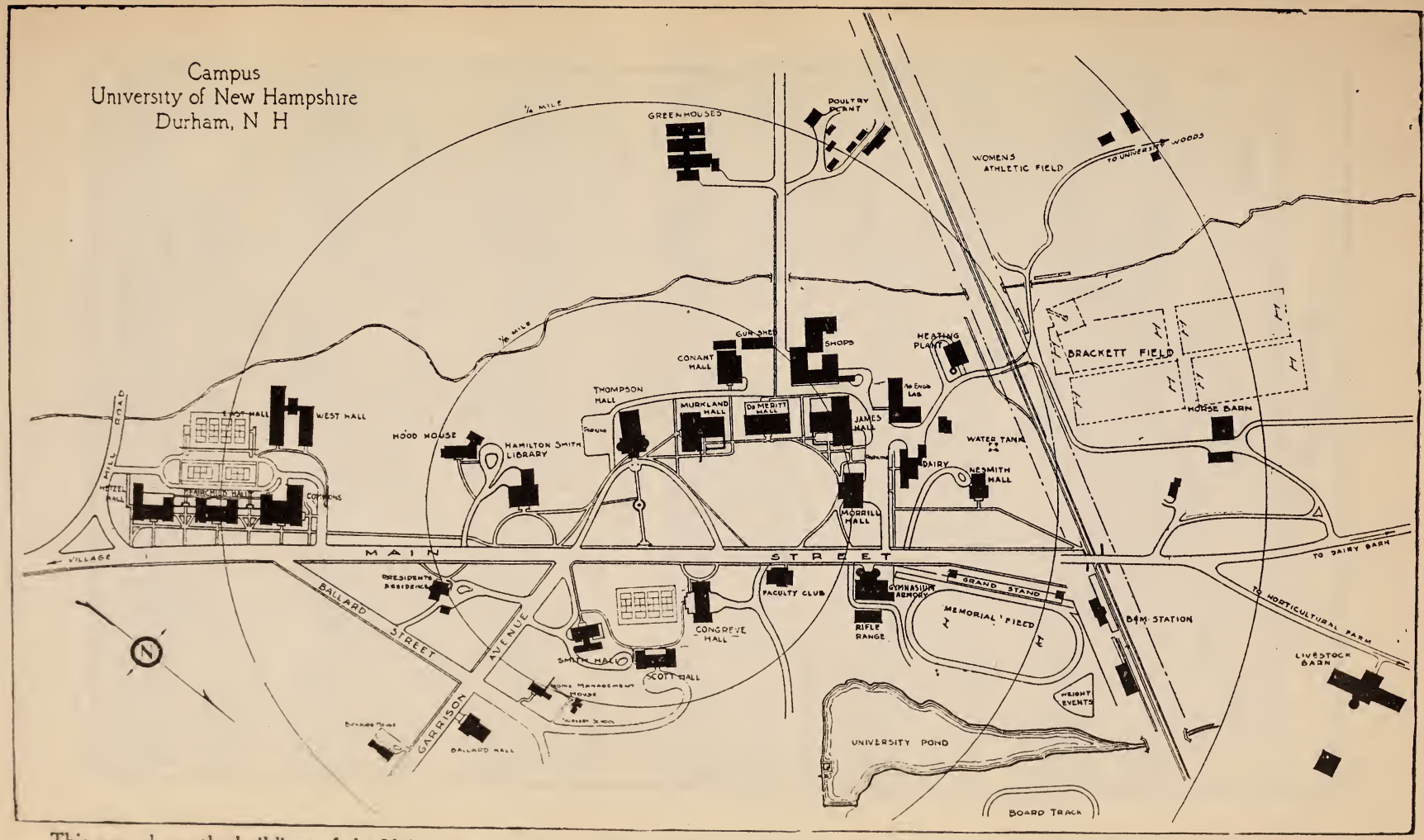
BULLETIN
of the
UNIVERSITY OF NEW HAMPSHIRE
Vol. XXIV February, 1933 No. 6



This map shows the buildings of the University and the immediately adjacent grounds. It does not include the farms, forests, gardens or orchards.

CALENDAR

1933

JULY

S	M	T	W	T	F	S
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2	3	4	5	6	7	8
9	10	11	12	13	14	15
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AUGUST

S	M	T	W	T	F	S
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SEPTEMBER

S	M	T	W	T	F	S
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OCTOBER

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NOVEMBER

S	M	T	W	T	F	S
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DECEMBER

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1934

JANUARY

S	M	T	W	T	F	S
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FEBRUARY

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MARCH

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APRIL

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MAY

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JUNE

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JULY

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AUGUST

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SEPTEMBER

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OCTOBER

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NOVEMBER

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DECEMBER

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1935

JANUARY

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FEBRUARY

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MARCH

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APRIL

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MAY

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26	27	28	29	30	31	..
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JUNE

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23	24	25	26	27	28	29
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UNIVERSITY CALENDAR

1933–1934

SUMMER SESSION

July 3	Monday	Registration Day
July 5	Wednesday	Classes begin at 8 A.M.
Aug. 11	Friday	Summer Session closes at 4 P.M.

FALL TERM

1933

Sept. 12	Tuesday	Matriculation Day—Freshman Class
Sept. 18	Monday	Registration Day—All Classes
Sept. 19	Tuesday	Recitations begin at 8 A.M.
Sept. 20	Wednesday	University Day—Afternoon holiday
Oct. 7	Saturday	Dads' Day
Oct. 20	Friday	Annual Meeting of Board of Trustees
Oct. 27	Friday	Mid-Term warnings to be filed, 5 P.M.
Nov. 4	Saturday	Home-coming Day
Nov. 29	Wednesday	Thanksgiving recess—Wed., 12:30 P.M. to Fri., 8 A.M.
Dec. 11–15	Mon.–Fri.	Fall Term examinations
Dec. 15	Friday	Fall Term closes at 4 P.M.

WINTER TERM

1934

Jan. 2	Tuesday	Registration Day
Jan. 3	Wednesday	Classes begin at 8 A.M.
Jan. 19	Friday	Meeting of Board of Trustees
Jan. —	Fri., Sat.	Winter Carnival, Fri., 12:30 P.M. to Sat., 12:30 P.M.
Feb. 7	Wednesday	Mid-Term warnings to be filed, 5 P.M.
Mar. 13	Tuesday	Town Meeting
Mar. 12–16	Mon.-Fri.	Winter Term examinations.
Mar. 16	Friday	Winter Term closes at 4 P.M.

SPRING TERM

1934

Mar. 26	Monday	Registration Day
Mar. 27	Tuesday	Recitations begin at 8 A.M.
Apr. 20	Friday	Meeting of Board of Trustees

May 1	Tuesday	Mid-Term warnings to be filed, 5 P.M.
May 12	Saturday	Mothers' Day
May 30	Wednesday	Memorial Day—Holiday
June 11–15	Mon.-Fri.	Spring Term examinations
June 12	Tuesday	Senior examinations close at 12:30 P.M.
June 16	Saturday	Class Day—Alumni Day—Meeting of Board of Trustees
June 17	Sunday	Baccalaureate Day
June 18	Monday	Commencement Day

BOARD OF TRUSTEES

His Excellency, Governor John G. Winant, A.M., LL.D., *ex officio*

President Edward M. Lewis, A.M., Litt.D., LL.D., *ex officio*

Andrew L. Felker, Commissioner of Agriculture, *ex officio*

Roy D. Hunter, *President* — West Claremont
June 14, 1916 to June 30, 1933

Harry D. Sawyer — Woodstock
September 15, 1926 to June 30, 1934

James A. Wellman, B.S. — Manchester
January 26, 1928 to June 30, 1935

Robert T. Kingsbury — Keene
January 27, 1928 to June 30, 1936

John W. Pearson, A.B. — Concord
January 26, 1928 to June 30, 1936

Albertus T. Dudley, A.B., *Secretary* — Exeter
June 14, 1928 to June 30, 1933

*Charles H. Hood, B.S., D.Sc. — Boston, Massachusetts
May 6, 1929 to June 30, 1935

George T. Hughes, A.M. — Dover
July 1, 1931 to June 30, 1935

*John S. Elliott, B.S. — Madbury
July 1, 1932 to June 30, 1936

Jessie Doe — Rollinsford
July 1, 1932 to June 30, 1934

* Elected by Alumni.

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MAISIE C. BURPEE, *Secretary to the Director of the Experiment Station and the Extension Service*
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CLARA L. FLANDERS, *Matron of Fairchild Hall*

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M. GALE EASTMAN, PH.D., *Professor of Agricultural Economics*
HAROLD A. IDDLES, PH.D., *Professor of Chemistry*

† Leave of absence, July 15, 1931–.
* Arranged in order of seniority of appointment.

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CLIFFORD S. PARKER, PH.D., *Professor of Languages*

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WALTER E. WILBUR, M.S., *Associate Professor of Mathematics*

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IRMA G. BOWEN, B.S., *Assistant Professor of Home Economics*
HEMAN C. FOGG, M.S., *Assistant Professor of Chemistry*
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RUDOLF L. HERING, PH.B., M.A., *Assistant Professor of Languages*
MARIAN E. MILLS, B.S., M.A., *Assistant Professor of Botany*
RAYMOND R. STARKE, A.M., *Assistant Professor of Physics*
STANLEY R. SHIMER, M.S., *Assistant Professor of Agricultural and Biological Chemistry*
†GEORGE W. WHITE, M.A., *Assistant Professor of Geology*

* Arranged in order of seniority of appointment.
† Leave of absence, 1932–33.

L. Phelps Latimer, ph.d., *Assistant Professor of Horticulture*
Norman P. Williams, Captain, Infantry, *Assistant Professor of Military Science and Tactics*
Julio Berzunza, m.a., *Assistant Professor of Languages*
Carl L. Martin, d.v.m., *Assistant Professor of Veterinary Science*
George B. Anderson, b.s., in e.e., First Lieutenant, c. a. c., *Assistant Professor of Military Science and Tactics*
E. Howard Stolworthy, b.s., *Assistant Professor of Mechanical Engineering*
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James A. Funkhouser, ph.d., *Assistant Professor of Chemistry*
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Ruth J. Woodruff, ph.d., *Assistant Professor of Economics*
†Donald G. Barton, m.s., *Assistant Professor of Zoölogy*
Arnold Perreton, b.arch., *Assistant Professor of Architecture*
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Miltiades S. Demos, ph.d., *Assistant Professor of Mathematics*
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E. Barton Hills, m.a., *Assistant Professor of English*
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Derric C. Parmenter, m.d., *Assistant Professor of Zoölogy*
Gibson R. Johnson, ph.d., *Assistant Professor of History*

Edwin R. Rath, b.s., e.e., *Industrial Research Engineer, College of Technology*

† Leave of absence, 1931–33.

INSTRUCTORS*

James Macfarlane, *Instructor in Floriculture*
Lyman J. Batchelder, *Instructor in Mechanical Engineering*
Bert E. Huggins, *Instructor in Dairy Husbandry*
Helen W. Leighton, *Instructor in Home Economics*
John C. Tonkin, *Instructor in Mechanical Engineering*
Ernest W. Christensen, B.S., *Instructor in Physical Education for Men*
Stuart Dunn, PH.D., *Instructor in Botany*
William F. Marsh, *Instructor in Physical Education for Men*
Elias M. O'Connell, *Instructor in Mechanical Engineering*
Robert C. Webster, M.A., *Instructor in English*
†Clair W. Swonger, A.M., *Instructor in Economics*
Lewis C. Swain, B.S., *Instructor in Music*
John C. Herring, ED.M., *Instructor in English and Education*
Theodore R. Myers, M.A., *Instructor in Geology*
‡Dorothy S. Barton, M.S., *Instructor in Zoölogy*
Carroll M. Degler, M.B.A., *Instructor in Economics*
William Yale, PH.B., M.A., *Instructor in History*
Charles A. Bottorff, Jr., D.V.M., *Instructor in Poultry Husbandry*
Marion J. Stolworthy, *Instructor in Home Economics*
Carl Lundholm, B.S., *Instructor in Physical Education for Men*
Herbert C. Moore, M.S., *Instructor in Dairy Husbandry*
Harold I. Leavitt, B.S., *Instructor in Physics*
Thomas H. McGrail, M.A., *Instructor in English*
William H. Hartwell, M.S., *Instructor in Physics*
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Alfred H. Miller, A.B., *Instructor in Physical Education for Men*
Genevieve K. Phillips, *Instructor in Home Economics*
Leonard W. Buell, A.M., *Instructor in English*
Ethel L. Cowles, B.S., *Instructor in Home Economics*
Alfred H. Taylor, III, B.S., *Instructor in Chemistry*
Charles O. Dawson, B.C.E., *Instructor in Civil Engineering*
Dorothy C. Small, B.A., *Instructor in Economics*
George R. Thomas, B.ARCH., *Instructor in Architecture*
Earl H. Little, B.S., *Instructor in Agricultural Education*
William L. Kichline, M.S., *Instructor in Mathematics*
Donald H. Chapman, PH.D., *Instructor in Geology*
Gwenyth M. Ladd, B.S. IN ED., *Instructor in Physical Education for Women*
Charles A. Sewell, M.S., *Instructor in Mathematics*
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Charles N. Elliott, M.A., *Instructor in Sociology*
James G. Conklin, M.S., *Instructor in Entomology*
John A. Brown, B.A., *Instructor in Geology*

* Arranged in order of seniority of appointment.
† Leave of absence, 1932–33.
‡ Leave of absence, 1931–33.

CHARLES E. PACKARD, M.S., *Instructor in Zoölogy*
HENRY S. CLAPP, B.S., *Instructor in Ornamental Horticulture and Supervising Landscape Architect*
ALBERT E. TEPPER, M.S., *Instructor in Poultry Husbandry*
RONALD B. WELCH, PH.D., *Instructor in Economics*
HALSTEAD N. COLBY, B.S., *Instructor in Agricultural Engineering*
LAWRENCE W. SLANETZ, PH.D., *Instructor in Bacteriology*
PERCY F. REED, B.S., *Instructor and Coach of Boxing, Department of Physical Education for Men*

JAMES S. CHAMBERLIN, B.S. IN C.E., *Lecturer on Personnel Relationships, College of Technology*
HAROLD M. MAYO, S.B., *Research Fellow in Geo-Chemistry*

ASSISTANTS*

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FRED H. BROWN, SERGEANT, *Assistant in Military Science and Tactics*
BETHYL C. HENNESSY, *Assistant in Oral English*
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LELAND BURKHART, B.S., *Graduate Assistant in Agricultural and Biological Chemistry*
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DONALD R. PITZ, B.S., *Graduate Assistant in Chemistry*
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CAROLINE M. STREETER, *Student Assistant in Physical Education for Women*
DAVID B. KELLAM, M.S., *Assistant in Chemistry*

* Arranged in order of seniority of appointment.

NEW HAMPSHIRE AGRICULTURAL EXPERIMENT STATION

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M. GALE EASTMAN, PH.D., *Associate Agricultural Economist*
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HISTORICAL SKETCH

The University of New Hampshire was incorporated by an act of The General Court of New Hampshire on May 4, 1923. The new corporation included the old corporation known as the New Hampshire College of Agriculture and the Mechanic Arts and also provided for a College of Technology and a College of Liberal Arts. The act of incorporation took effect on July 1, 1923. Under the provisions of the act the trustees of the old corporation, the New Hampshire College of Agriculture and the Mechanic Arts, became the trustees of the University of New Hampshire.

The administration of the University is vested in a board of thirteen trustees, of which the Governor of the State, the Commissioner of Agriculture, and the President of the University are *ex officio* members. The alumni elect two trustees, and the others are appointed by the Governor with the advice and consent of the Council.

The original corporation, the New Hampshire College of Agriculture and the Mechanic Arts, was created by an act of the Legislature in 1866 and was established at Hanover as a state institution in connection with Dartmouth College. The year 1866 saw the entrance of the first class. Before the college was founded, the Legislature of 1863 had accepted the conditions of an act of Congress of July 2, 1862, entitled, "An act donating public lands to the several states and territories which may provide colleges for the benefit of agriculture and the mechanic arts."

In 1893 the college was moved from Hanover to Durham. This action followed the death of Benjamin Thompson, a farmer of Durham, who died January 30, 1890, and left to the college, with the exception of a few minor reservations, his entire estate. The Legislature accepted this bequest March 5, 1891, and appropriated the necessary money for the first buildings.

Shortly before the State accepted this gift of Mr. Thompson's the Legislature further provided for the college by accepting the provisions of Congressional legislation known as the Morrill Act. This legislation made available federal appropriations "for instruction in agriculture, the mechanic arts, the English language, and the various branches of mathematical, physical, natural and economic science, with special reference to their applications in the industries in life, and to the facilities for such instruction."

Although the college was able to make use of the Thompson land as early as 1893, it was not until 1910 that the income from the endowment of almost $800,000 became available. At present the college has an annual income from the Thompson funds of nearly $32,000. It also receives moneys which are available as the result of the acts of Congress referred to, and a yearly appropriation from the State amounting to one mill on the assessed valuation of all taxable property.

Although engineering instruction had been carried on in a division of engineering from the founding of the college, the work became unified and specialized when the College of Technology became one of the administrative units of the University in 1923.

Study of the liberal arts had been offered before the change of nomenclature of the corporation in 1923. The University of New Hampshire included a College of Liberal Arts, intended to care for the students who desire preparation for life in fields other than agriculture and engineering.

Graduate study although not new to New Hampshire, as it had been carried on for some time under the direction of a faculty committee, was definitely organized in 1928 as a Graduate School.

A branch of the University, known as the Agricultural Experiment Station, was established by the State August 4, 1887, under the terms of an act of Congress passed in March of that year. Its purpose is to acquire agricultural knowledge and to bring its information to the people of the State. The station is actively engaged in this work not only in Durham but throughout the commonwealth. Members of the faculty of the College of Agriculture serve on the station staff.

In addition to its functions of teaching resident students and conducting research investigations, the University has been developing rapidly during the past few years its function of carrying information and assistance in agriculture and home economics into all parts of the State. Funds appropriated for the University by acts of Congress and the Legislature provide the means for promoting this type of work.

SITUATION

Durham, the home of the University, is an attractive village on the Portland division of the Boston and Maine railroad, sixty-two miles from Boston, fifty-four from Portland, and five from Dover, a city of 15,000 population. Good train service makes the University easily accessible from all parts of the state.

Durham, organized in 1732, is one of the historic towns of New Hampshire. In the early days it was the home of a prosperous shipbuilding industry. Situated at the head of tidewater on the Oyster River, it served as a distributing center for the interior of the state. During the Revolutionary War it was famous as the home of General John Sullivan. Near his home, in the village, the state has erected a fitting monument to his memory.

FACILITIES FOR INSTRUCTION

BUILDINGS FOR ADMINISTRATION AND INSTRUCTION

Thompson Hall, the general administration building, was built in 1893 and is named for Benjamin Thompson of Durham, the greatest individual benefactor of the College and University. It contains the office of the President and the offices of other general administrative officers, and also affords classroom and laboratory facilities for work in physical education for women, zoölogy, entomology, and home economics.

Conant Hall, also built in 1893, is named for John Conant of Jaffrey, an early and generous friend of the College. This building, originally constructed to house scientific departments, gradually became during the passage of years the headquarters of the department of chemistry. It was in this building that Professor Charles James accomplished his startling researches in the rare earths and minerals. Upon the completion of Charles James Hall in 1929, this building was largely given over to civil engineering and geology.

Nesmith Hall, another one of the four original buildings erected in Durham in 1893, is named for Judge George W. Nesmith of Franklin, who was active as president of the Board of Trustees from 1877 to 1890. This small building now houses the departments of music, botany,

agricultural economics and research in the fields of botany and agricultural economics.

Shops, originally constructed in 1893 and enlarged during and immediately after the World War, provides facilities for the department charged with the maintenance of the buildings and grounds. This building also houses practical laboratory work in mechanical engineering, and in one section provides space for practical instruction and research in the handling and storage of horticultural products.

Morrill Hall, built in 1902, is named for Senator Justin Morrill of Vermont, sponsor of the Land Grant Act. This building serves as headquarters of the College of Agriculture, and contains also the office of the director of Experiment Station and the Extension Service. In this building are the laboratories and classrooms of the departments of agronomy, animal husbandry, horticulture, poultry husbandry, forestry, and quarters for agricultural extension and station staff members.

Armory and Gymnasium, erected in 1906, contains a large drill hall and gymnasium and provides space for the offices of the departments of physical education and athletics and military science and tactics. In the basement facilities are provided for showers and lockers and for the storage of military and athletic equipment.

Hamilton Smith Library was erected in 1907 with a union of funds left by Hamilton Smith of Durham for the erection of a town library building, from the Carnegie Corporation and the State of New Hampshire. The library serves not only the faculty and students of the University but also the residents of the town of Durham, being one of two such libraries in the United States so constituted, and because it is the library of the state university, it serves as far as possible the people of the State of New Hampshire.

Dairy Building, constructed in 1910, is arranged and equipped for purposes of dairy instruction. It contains equipment usually found in an up-to-date dairy and affords splendid opportunities for the study of all phases of the dairy industry.

DeMeritt Hall, provided in 1914, is named for Albert DeMeritt of Durham, a long-time friend and staunch supporter of the College. It serves as the headquarters of the College of Technology and affords lecture, recitation, laboratory and office rooms for the departments of mechanical engineering, electrical engineering, physics, and architecture.

Murkland Hall, built in 1927, is named for Charles Sumner Murkland,

President of New Hampshire from 1893 to 1903. It provides classroom and office facilities for the majority of the departments of the College of Liberal Arts. It houses the departments of economics and accounting, English, education, languages, mathematics, sociology, philosophy and psychology, history, and political science.

Charles James Hall, dedicated in 1929, bears the name of Charles James, Professor of Chemistry at New Hampshire from 1906 to 1928. This new structure houses the department of agricultural and biological chemistry and the department of chemistry. It provides lecture and recitation rooms and laboratories for instruction and research in both of these departments.

Bickford House, a leased building of frame construction, affords office and classroom facilities for the department of education.

RESIDENTIAL HALLS

Commons was erected in 1919 and enlarged in 1925. It contains the freshman dining hall, a faculty dining room, a cafeteria, a trophy and lounge room, rooms for meetings of student organizations, and provides on the third floor dormitory facilities for a limited number of undergraduate men.

Fairchild Hall, erected in 1916, honors Edward Thomson Fairchild, President of New Hampshire from 1912 to 1917. It is a brick structure of colonial design and furnishes accommodations for 150 undergraduate men.

Ballard Hall, originally constructed in 1905 and acquired by purchase in 1914, provides satisfactory accommodations for approximately 50 undergraduate men.

East and West Halls were erected by the United States Government in 1918, in order to furnish housing facilities for troops in training at the College during the World War. These buildings have since been partitioned into moderate-sized rooms and provide desirable accommodations and comfortable quarters at low cost for 230 men.

Smith Hall was originally constructed in 1908 with funds made possible by the generosity of Mrs. Shirley Onderdonk of Durham, who made this provision as a memorial to her mother, Mrs. Alice Hamilton Smith. The original building and an annex constructed in 1918 furnish desirable rooming facilities for 68 women students.

Congreve Hall was built in 1920 with funds made available through

the will of Mrs. Alice Hamilton Smith of Durham, and bears the name of a family intimately connected with Mrs. Smith's ancestry. The original building and a wing erected during the summer of 1922 accommodates 100 undergraduate women.

Hetzel Hall, built in 1925, is named for Ralph D. Hetzel, President of New Hampshire from 1917 to 1927. It is the newest men's dormitory on the campus and accommodates 156 undergraduate men.

Scott Hall, completed in 1932, is named for Clarence Watkins Scott, Professor of History at New Hampshire from 1879 to 1930. This new building furnishes comfortable accommodations for 120 undergraduate women.

Elizabeth Demeritt House, a new and well-furnished practice house for use by students in home economics.

Charles Harvey Hood House, an infirmary and rest house erected in 1932, is the gift of Mr. and Mrs. Charles Harvey Hood of Boston. It was erected and will be maintained by funds presented to the Trustees in 1930, the fiftieth anniversary of Mr. Hood's graduation from New Hampshire. Hood House, designed and furnished in a cheery, homelike style is unusually well equipped to care for sick and ailing students and teachers. It will accommodate normally thirty patients in both wards and private rooms. The office of the University Physician and quarters for two trained nurses are also located in Hood House.

Other buildings on the campus include the President's House, a substantial attractive building erected in 1904 to provide a residence for the President and his family; the Power Plant, equipped for heating the buildings of the institution; the Greenhouses, which provide facilities for botanical and horticultural research and instruction; the several large and well-equipped farm buildings adapted to the needs of the College of Agriculture; and a frame dwelling used for instruction in the care and nurture of children of pre-school age.

EQUIPMENT

Agricultural Engineering.—For instruction in Agricultural Engineering improved facilities are provided by the use of two floors in a building measuring 45 feet by 98 feet which contains laboratories for the study of farm equipment, building construction and maintenance, and other engineering problems related to farm enterprises. Four to six makes of tractors are available in the tractor laboratory; several types and sizes of stationary engines and light plants are provided in the gas engine

laboratory. Considerable space is devoted to a large variety of representative makes of modern field machinery for study of machine methods, selection, care, adjustment and operation.

Facilities for instruction in electrical equipment and methods of operation are provided in a laboratory in the basement of Morrill Hall. This space adjoins the experiment station laboratory for rural electrification, in which are available many electrical appliances especially developed for agricultural use.

Tools and facilities are provided for the care, adjustment and operation of equipment, and a modern farm shop is employed in the instruction in repair work.

Drainage levels for laying out drains, plane tables for mapping plots of land, polar planimeters for measuring plotted areas, steel tapes, chains, range poles, etc., are available for practical work in surveying, mapping and drainage problems.

A dynamometer, apparatus for studying draft problems, and many measuring, recording and other instruments of the experiment station are available for technical, as well as practical, class instruction.

Agronomy.—For farm crops work, this department has a very complete collection of dried specimens of the different forage crops, and of the more important varieties of corn, wheat and oats. Seed testing apparatus, grass charts, and other illustrative material form a part of the equipment.

The lecture room is equipped with a combined lantern and reflectoscope, together with a large number of lantern slides.

The soil physics laboratory contains soil bins, a compacting machine, chemical and torsion balances and various kinds of physical apparatus for the study of soils, including that for the determination of specific gravity and for the making of mechanical analyses.

The farm, with its 1,100 acres of land, has a variety of soils suited for the growth of various farm crops.

Animal Husbandry.—The stock barn is thoroughly equipped with modern appliances, and houses an excellent herd of pure-bred Shorthorns, ten Herefords, small flocks of pure-bred Shropshire and Dorset sheep, and a well-bred Percheron stallion.

The piggery accommodates a herd of Poland China hogs, and a few Chester Whites, Duroc Jerseys, and Berkshires for class work.

The classroom is equipped with various anatomical models, charts,

and lantern slides, and an up-to-date livestock library is available for student use.

Herd books of the most prominent breeds are used for the purpose of familiarizing students with the methods of tracing pedigrees and with the practices of breeders' associations.

Architecture.—The department of architecture is well equipped to meet the needs of the subjects offered. The drafting rooms are supplied with tables and lockers, and the free-hand studio with suitable stands and easels. For free-hand drawing there is a good supply of geometric models, and for advanced work in charcoal drawing the nucleus of a good collection of plaster casts exists, consisting of historic ornament, details of plant and animal life and of the human form. For special work in this subject there is available the museum of casts, consisting of examples of antique and modern sculpture. For work in architectural drawing an excellent library of books, periodicals, and blue prints of all classes of buildings, are available for reference and use in the drafting rooms, while a goodly collection of samples of building materials is being added from time to time.

Botany.—The department of botany has the usual laboratory equipment to meet the needs of the courses in general botany, plant physiology and bacteriology. In the advanced courses, owing to the connection of the department with the experiment station, students will find both the laboratory and greenhouse equipment ample for critical studies in plant diseases and plant nutrition.

Chemistry.—During the year 1929–30 the departments of chemistry and agricultural chemistry, occupied the new building, Charles James Hall.

Laboratories, equipment and recitation rooms, entirely modern in every respect, are provided for instruction in all fundamental courses. In addition ample facilities are available for advanced instruction and research work in general, analytical, physical, and organic chemistry. Besides the usual necessary apparatus such as glass and porcelain ware, balances, drying ovens and platinum ware, there is equipment for constant temperature work, magnetic susceptibility determinations, hydrogen ion determinations, spectroscopic analysis and high and low voltage motor generator sets for electro-chemistry.

Civil Engineering.—The civil engineering department is located in Conant Hall. The offices and the drafting, recitation, and lecture rooms

are on the first floor, and the instrument rooms are in the basement. Laboratories for material testing and highway investigation are also in the basement. The hydraulic laboratory, in the basement of DeMeritt Hall, is used by the civil engineering department for instruction and experimentation. The department is well equipped with transits, levels, plane tables, and current meters for plane, topographic and hydrographic surveying.

Dairy Husbandry.—The dairy husbandry laboratories, located in the dairy building and in the dairy barn, are well equipped for instructional purposes. The equipment includes power churn, power separator, pasteurizers, coolers, ice cream freezers, bottler, two mechanical refrigeration units and homogenizer. The milk testing and bacteriological laboratories have equipment necessary for milk testing and inspection, and dairy bacteriology.

The University dairy herd is made up of representatives of the Ayrshire, Guernsey, Holstein and Jersey breeds.

A new dairy barn unit, completed in the spring of 1932, provides accommodations for some 120 dairy animals. This unit consists of the following: main barn, for 50 cows; wing for bulls, calves and young stock; isolation barn; dry cow and young stock barn, for 50 head; combine milk room; milk house, with equipment for cooling, bottling and storing milk, and for washing and sterilizing bottles and equipment.

Electrical Engineering.—The laboratories for electrical engineering are located in DeMeritt Hall. The main laboratory is used for testing electrical machinery, and contains a large distribution switchboard on which are mounted instruments, switches, circuit breakers, and plugging devices. These devices are so arranged that by making the proper connections thereto, direct current and alternating current can be supplied to the various panels in the laboratory and to the lecture rooms in the building. In addition to this main laboratory there are others devoted to communication, storage batteries, and research.

The general equipment includes direct and alternating current generators and motors, transformers, rectifiers, rotary converters, telephone, telegraph and radio communication equipment, demonstration equipment, arc lamps, storage batteries, and the necessary measuring instruments adapted to the needs of students taking this course.

The lecture room of the department is equipped with a panel board connected directly with the switchboard in the main laboratory, thus making it possible to supplement lectures with demonstrations.

Farm.—The College of Agriculture has a large, well-equipped farm. It serves as a laboratory for much of the instruction in agriculture where approved methods and practices may be seen and where many students may gain experience by actually performing the work with their own hands.

The several farms of the University total about 1,140 acres. Of this area about 110 acres are devoted to the campus and athletic fields; about 320 acres are used for hay, tillage, orchards and gardens, about 400 acres are forest, wood and brush land; about 300 acres are in pasture, and about 10 acres in ponds.

Forestry.—Durham is well situated with reference to the study of woodlot forestry. All types of native second-growth forests are found near by, and the college owns a tract of 50 acres of old-growth timber. A nursery for the growing of seedling forest trees has been established.

The necessary instruments for making forest maps and measurements, together with collections of wood specimens, lantern slides and photographs, are available in connection with this work.

Geology.—The geology department, located on the second floor of Conant Hall, offers courses in structural and dynamic geology, physiography, mineralogy, economic geology, and paleontology. The lectures in these courses are supplemented by laboratory exercises and field trips.

The working equipment of the department includes numerous topographic and geologic maps, and a fairly complete collection of minerals, rocks and fossils. Microscopes are available for problem work in mineralogy, petrology, and paleontology. The departmental museum displays a wide variety of geological specimens and contains the Hitchcock collection, the Clough collection, and a portion of the Exeter Historical Society collection.

Few areas present such a wide variety of geological phenomena as the country in and about Durham. Features such as mountain and continental glaciation, marine erosion and deposition, vulcanism, orogeny, and metamorphism, are well shown.

Home Economics.—The home economics department has two offices and three large classrooms in Thompson Hall, a thoroughly modern home management house, and a nursery school-kindergarten. The food laboratory consists of a small unit dining-room and a working area equipped with individual desks and cupboards for utensils and supplies. The clothing laboratory is equipped with tables, cupboards, various

types of sewing machines and has a fitting room. The third classroom is equipped for weaving and textile study and contains a delineascope.

The Elizabeth DeMeritt House, maintained for practice in home management, is a modified Cape Cod cottage, thoroughly equipped with modern household devices and furnished to illustrate various types of treatment in keeping with its style. It will house eight resident students and two instructors.

The Durham Kindergarten and Nursery School is located in a cottage house at the rear of Smith Hall. It is furnished with the necessary equipment to maintain the school as a laboratory for child care and training.

The Library.—The Hamilton Smith Library, by virtue of an agreement between the town of Durham and the then New Hampshire College in 1907, contains not only the books belonging to the University but also those of the Durham Library Association, the Durham Public Library and the New Hampshire Agricultural Experiment Station. In each case these collections are increased by the body owning the books.

The library collection includes 73,000 bound volumes. One thousand periodicals, continuations and proceedings of scientific societies are received currently. The library is a depository for United States government publications. The main collections are housed in the Hamilton Smith Library. The volumes of the New Hampshire Agricultural Experiment Station are kept in Morrill Hall. Seventeen department libraries are maintained for the departments of the Colleges of Agriculture and Technology. Periodicals appropriate to the department libraries are sent there.

The library publications include *The Library Handbook* containing information, directions for the use of the library and library tools, and library regulations; and the *Library Lantern*, a monthly news bulletin about books and libraries. These are free.

The library attempts to provide all books needed for reading and research save the individual texts adopted for the various courses; to provide recreational reading of a wide and varied character including current, ephemeral and standard material of value; and to add gradually to its collections of the classics, serial sets, research and reference works.

Mechanical Engineering.—This department is located in DeMeritt Hall. On the second and third floors are the advanced drawing and designing rooms. In addition to these drafting rooms there are two

lecture rooms, and department offices. One of the lecture rooms is equipped with a motion picture machine and stereopticon lantern for illustrated lectures.

In the basement are located the mechanical engineering laboratories, in the north end of which is the laboratory equipped with the apparatus needed in making analyses of flue gases, for calorimetric determinations of the heat values of solid and liquid fuels, and for conducting the usual work in heat treatment of steel. There is also apparatus needed in determining the viscosity and flash points of lubricants as well as an oil testing machine for determining the lubricating and wearing qualities of lubricants. Materials testing machines of this department are located in the basement of Conant Hall.

The main room is given over to the testing of steam, gas and hydraulic machinery as well as of air compressors, air conditioning, refrigeration and heat transfer apparatus. This laboratory is equipped with machinery needed for such testing. There is also an ample supply of other apparatus needed in conducting various tests and doing research work in various lines.

The new power plant has been designed to serve also as a steam laboratory for this department.

Aëronautical equipment and gas engines are located in the automotive laboratory at the rear of the Shops.

The wood shop is equipped with thirty-three benches, and complete woodworking equipment.

The equipment of the machine shop consists of the modern apparatus found in an up-to-date commercial shop, and a large number of small tools, including micrometers, calipers and gauges necessary for accurate work. This shop was entirely remodeled and equipped with new lathes in 1931.

In the forge shop are 27 Sturtevant down-draft forges, with anvils and necessary tools. This shop was entirely remodeled and new down-draft equipment was installed therein in 1931.

Military Science.—Recognizing in military training a source of physical, mental, and moral development for the individual and a future safeguard for the nation, the University maintains two units of the Reserve Officers Training Corps. This corps, which is described in the later pages of the catalog, consists of over 127,000 students in all of the principal educational institutions of the country. It was organized by Congress in 1916 to provide systematic military training in civil institu-

tions and to train specially selected students as reserve officers in the military forces of the United States.

The training of the corps is under the supervision of the Secretary of War. Officers and non-commissioned officers of the Regular Army are detailed at the University for carrying on this training. The War Department loans all the necessary equipment of the latest type, so that with the exception of a few text-books required by students, members of the R. O. T. C. are put to no expense for arms or equipment.

In addition to the infantry and artillery equipment furnished by the government, there is a 75-foot indoor gallery practice rifle range, a 1,000-inch outdoor machine gun range, and a 50-yard outdoor pistol range available for the use of students. The rolling country in the vicinity furnishes opportunity for extended order drill and field exercises, and the athletic fields for close order drill.

The cadets wear, when on duty of a military character, a uniform furnished by the War Department.

Upon the graduation of each class, those students who have satisfactorily completed the course receive commissions as second lieutenants in the officers reserve corps of the United States Army.

Physics.—The department of physics is housed in the west end of DeMeritt Hall. In the basement are located the introductory physics laboratory with apparatus room, a photographic laboratory, a switchboard hall, a storage room and one small dark room for the individual work of the instructors. On the first floor are located the general physics laboratory and apparatus room, a recitation room and the department office. On the second floor is located the lecture room, with adjoining apparatus room.

Instruction in physics is given primarily by recitations and laboratories, with frequent lectures, examinations, written reports and personal conferences. The aim of the department is to develop student minds capable of doing independent thinking in the science of physics. There is a small but well chosen collection of apparatus for use in laboratories and lectures.

Poultry Husbandry.—The equipment of the poulty plant consists of a permanent laying house housing 1,000 birds; a laying house housing 600 birds; a long type breed house of eight small pens for special breeding purposes; a permanent long type brooder house capable of brooding 5,000 chicks; battery brooder rooms with a capacity of 4,000 chicks to

broiler age; an incubator cellar containing cabinet-type incubators of 1,400-egg and 3,000-egg capacity. Range shelters are also available for the poultry plant operation.

The hens consist of Barred Plymouth Rocks, Single Comb Rhode Island Reds, Single Comb White Leghorns, New Hampshire Reds, White Wyandottes and Blue Andalusians. Other breeds will be added. A portion of the flock is trap-nested for instructional and breeding purposes.

The poultry plant is operated for instructional and research purposes. Experiments are being conducted along the lines of feeding, breeding, brooding, with special emphasis on battery brooding, management, and diseases.

A special poultry pathology laboratory is maintained for diagnosis and research in poultry diseases. This laboratory is available for student instructional purposes.

Zoölogy.—The University is favorably situated geographically for the study of zoölogy. Within a few minutes' walk of the laboratory, the Oyster River meets the tide water from Great Bay. This furnishes a graduation of salt, brackish and fresh water with an abundance of their characteristic fauna. On the other hand, there are numerous bodies of fresh water, with typical fresh water forms.

The department of zoölogy is prepared to offer courses in systematic zoölogy, physiology, sanitation, philosophical zoölogy, and anatomical zoölogy.

The equipment for the work in systematic zoölogy consists of a well-lighted laboratory, provided with tables, charts, dissecting and compound microscopes. All of the latest books and periodicals on systematic zoölogy are at the student's disposal.

The proximity to both salt and fresh water renders the work in advanced systematic zoölogy unusually attractive. In addition to the regular collecting equipment, nets, aquaria, etc., advanced students also have the use of rowboats and a gasoline launch.

In the work in physiology, hygiene and sanitation, the department is provided with an unusually fine collection of injected preparations of the human body, and with numerous charts.

For work in evolution and experimental zoölogy the department has a very complete library. Studies in ecology in Great Bay and vicinity are encouraged, for which purpose the students have the use of camera equipment. In addition to the study of evolution under natural con-

ditions the department also furnishes aquaria for laboratory study and experiments.

The work in anatomical zoölogy is greatly facilitated by an abundance of fresh material which may be collected as needed. For the study of human and comparative anatomy a full set of skeletons and preserved material is provided. Students interested in histology have access to a private collection of some two thousand microscope slides.

Museum.—The museum had for a nucleus the collection made during the state geological survey. To this, additions have been made from various sources. Specimens are being collected to illustrate the zoölogy of New Hampshire, and New Hampshire collectors and naturalists are invited to make the museum the permanent depository of their collections.

GENERAL INFORMATION

EXPENSES

Estimate of Freshman Expenses

	High	*Average*	*Low*
Room (Dormitories) *	$120.00	$72.00	$63.00
Board (at Commons)	200.00	200.00	200.00
Tuition **	150.00	150.00	75.00 and a scholarship
Uniform †	.....	.....	.....
Books	35.00	35.00	35.00
Laundry	35.00	20.00	15.00
Incidentals ‡	100.00	60.00	50.00
Total	$640.00	$537.00	$438.00
Expenses, Fall term §	$260.00	$210.00	$170.00

Tuition—Four-Year Students.—Tuition is $150 a year for residents of New Hampshire and $250 for non-residents. Tuition is paid in advance in three equal installments, one on the first day of each term.

A diploma fee of $5 is charged upon graduation. Charges will be assessed for extraordinary breakage or damage. No laboratory or course fees are charged. Payment of the tuition entitles the student (four-year, two-year) to admission to all home varsity athletic games and contests.

Tuition—Two-Year Students.—Tuition for two-year students in agriculture is $75 for residents of New Hampshire and $175 for non-

* See bulletin on Residential Halls.

** If not a resident of New Hampshire add $100 to high and average and $175 to low. If a resident and not a holder of a scholarship, add $75 to low.

† Uniform for members of the Reserve Officers' Training Corps is provided by the Federal government. A deposit of $15 is required of each student to whom military equipment is issued.

‡ Expenses for travel, clothing, etc., vary with the individual student, and should be added. The subscription price to *The New Hampshire*, the college paper, is $1.50 per year. Subscriptions are taken during registration at the opening of the college year. Provision should also be made for participation in other student enterprises.

§ The greater proportional expense in the fall term is occasioned by the length of the session and the required uniform deposit payable at the opening of the year.

residents. Tuition is payable in advance in three equal installments, one on the first day of each term.

Books.—Students may purchase books, drawing instruments, materials, etc., at the University Bookstore in Thompson Hall.

Rooms.—The University has three dormitories for women and six for men. *All men of the freshman class will be assigned to rooms in Fairchild and East Halls.* All rooms are heated, lighted and furnished. Bed linen, quilts and towels, however, are provided by the individual student. Each women's dormitory is equipped with a laundry. Prices range from $63 to $120 a year for each student. Applications for rooms in the dormitories should be addressed to The Registrar, University of New Hampshire, Durham.

A Five Dollar ($5.00) Room Deposit must accompany each application, this deposit to be forfeited if the room accepted is not occupied by the applicant. The deposit is held as a guarantee against breakage and will be returned at the close of the year or upon withdrawal.

Room rent is payable in advance in three equal installments, one on the first day of each term except as noted below.

Rooms reserved will be held only until September 1st unless one-third of the annual rent is paid before that date.

Rooms paid for and not occupied one day after registration may be declared vacant and the room rent returned, unless the individual holding the reservation makes a written request to the Registrar to hold the room until a later date. The advance payment for the room will not be returned to those making this special request. No room will be reserved more than ten days after the registration date. Early application is necessary in order to secure a choice of rooms. Rooms in private dormitories or families may be secured for about the same prices as for those in college dormitories.

Women students, unless living at home, are required to room in one of the women's dormitories, or in approved houses. A competent matron is in charge of each women's dormitory.

Board.—A Dining Hall is operated and supervised by the University for the accommodation and benefit of the students. All freshmen, whose homes are not located in Durham or who are not residents of Durham, will be required to board at the University Dining Hall. The aim of the compulsory regulation is to insure a broad fellowship in the class, and to safeguard the health of the first-year students by offering

skilled dietetic oversight in the selection and preparation of their food. The Dining Hall is equipped with the best appliances for cooking and serving on a large scale, and is subject to constant sanitary inspection by the University Physician. Board is $200 for the college year, payable $70 at registration for the first term, and $65 at registration for each of the second and third terms.

The Dining Hall is not operated for profit. Savings made possible by reduced costs of operation are passed along to the students in the form of reduced term board charges in the winter or spring terms.

A cafeteria is open to all students of the upper classes who may desire to take advantage of the low price and the high quality of food available at the University Dining Hall.

Hood House.—The Health Department with the University Physician in charge is devoted to the prevention of sickness and the maintenance of the health and efficiency of the students. The Charles Harvey Hood House, a completely equipped and home-like infirmary and rest house, with a physician and trained nurses in charge, is available for use by all students.

Checking Accounts.—Students are earnestly urged to arrange checking accounts in their home banks in order to avoid possible loss resulting from keeping on hand considerable amounts of money. The Business Office will accept and cash student checks. Such banking arrangements will also facilitate payment of registration bills which are strictly due and payable on registration day.

Self Support.—A great many students earn their education in part by means of their own labor during summers and while in college.

Student Employment Committee.—In order to insure an equitable distribution of University part-time employment, a committee of the Faculty is charged with the responsibility of rating students for employment. The committee accepts no responsibility for the annual placement of students on jobs. Its only function is to try to see that only deserving students are certified as eligible to hold positions. Application blanks, obtainable at the Business Office, must be filled out and each student rated before he becomes eligible for a University position.

Y. M. C. A.—The Young Men's Christian Association also finds opportunities for men students for employment in faculty homes and about the village of Durham. In the fall and spring terms freshmen

can get work several afternoons a week doing such odd jobs or chores as taking care of lawns, gardens, furnaces, etc. By the end of freshman year they may reasonably hope to get a steady job such as waiting on table, serving as janitor in one of the University buildings, etc. Students are urged not to count too much upon earning their way the first year, and should be sure of at least $400 from other sources, a low estimate of the first year's expense. Inquiries from the men should be addressed to the Secretary, Christian Work, Inc., Durham, N. H.

Women Students.—Employment for women students, except for positions in the University offices or departments, is in the hands of the Dean of Women, and inquiries from women students should be addressed to her.

UNIVERSITY AID TO STUDENTS

Scholarships.—A limited number of scholarships are awarded annually to deserving students. In order to grant scholarships equitably the University requires full information of all applicants relative to the necessity for scholarship aid. Scholarship application blanks will be provided upon request to the Dean of the Faculty.

These scholarships will be forfeited at any time for misconduct. They will also be withdrawn from students in four-year courses who fail to secure an average grade of 60 during any one term.

A more detailed description of the several classes of scholarships follows:

State Scholarships.—To aid students who need and deserve financial assistance, the Trustees award 250 scholarships annually to residents of New Hampshire who have attended the University less than three terms. Each scholarship pays $75 per year, and is good for one year only.

Applications for these scholarships must be returned to the Dean of the Faculty not later than July 15.

Recommendations for scholarships may be made by the subordinate and Pomona Granges, State Senators, State Federation of Women's Clubs, and citizens of New Hampshire.

Upon investigation and approval scholarships will be granted to those whose need appears to the committee to be the greatest.

Conant Scholarships.—These scholarships provided by the bequest of John Conant, of Jaffrey, pay $75 at present and are good for one year.

By the terms of the bequest they are open to men taking agricultural courses and preference is given to residents of Cheshire County. Application should be made to the Dean of the Faculty.

Nancy E. Lougee Memorial Scholarships.—Since 1921 the interest on $5,000 bequeathed by Amos D. Lougee of Somersworth, has been expended for scholarships of $75 each. They will be assigned each year and will be good for one year only. No applications can be approved without satisfactory evidence that the candidates *would be unable to attend without the aid of the scholarships.* Until July 15 of each year, perference will be given to residents of Strafford County. Application should be made direct to the Dean of the Faculty.

Valentine Smith Scholarships.—Through the generosity of Hamilton Smith of Durham, the sum of $10,000 has been given to establish the Valentine Smith scholarships.

"The income thus accruing shall be given to the graduates of an approved high school or academy who shall, upon examination, be judged to have the most thorough preparation for admission."

These are the most remunerative scholarships that the institution has to offer. They pay $100 a year and are good for four years if reasonable scholarship is maintained.

Competitive examinations for these scholarships will be held in Thompson Hall at the University, September 11 and 12, 1933. Examinations will commence at 8 A.M. on Monday. Contestants must present the usual credentials fulfilling the requirements for entrance, and must pass examinations in English, American history, algebra (through quadratics), plane geometry and either physics or chemistry.

Requests for examinations should be forwarded to the Dean of the Faculty at least one week before the beginning of the examination period, and must state the names and addresses of the students, and the examinations desired.

Examinations are not restricted to residents of the state.

Class Memorial Scholarships.—In accordance with a communication presented to the Board of Trustees by the Alumni Association in 1922, each class upon graduation establishes a fund of $3,000, the interest of which will be used in payment of a class scholarship, to be awarded by a committee appointed by the President. The respective classes shall forward recommendations to this committee which will investigate such recommendations before awarding the scholarships.

Scholarships shall be limited to candidates of the highest moral standards, physically sound, and preference shall be given to those who require financial aid in order to continue their education, and shall be dependent upon the same factors as govern the holding of other scholarships as regards grades.

Eighteen classes, 1922 to 1940, will establish these scholarships, and each scholarship shall be dedicated to the name of one of the eighteen New Hampshire men who died in the service of his country during the World War. Nine classes have established their scholarships to date.

They are: Forrest Eugene Adams Scholarship, Class of 1922; Paul Edward Corriveau Scholarship, Class of 1923; Pitt Sawyer Willand Scholarship, Class of 1924; George Downes Parnell Scholarship, Class of 1925; Cyril Thomas Hunt Scholarship, Class of 1926; Donald Whitney Libby Scholarship, Class of 1927 and family; Frank Booma Scholarship, Class of 1928; Earle Roger Montgomery Scholarship, Class of 1929; Fred Weare Stone Scholarship, Class of 1930.

Ralph D. Hetzel Interscholastic Debating Scholarships.—The Board of Trustees on December 20, 1926, set aside three scholarships each year (each for three years) to be awarded to the three interscholastic debaters who should qualify under regulations defined by the Interscholastic Debating League or by the University. These scholarships are limited to residents of New Hampshire.

Hunt Scholarship.—A special scholarship paying $75 has been established by the Trustees at the request of the United States War Department for the benefit of soldiers, or sons and daughters of soldiers, in the United States Army. This scholarship is named in honor of Colonel William E. Hunt, '99, and Colonel Charles A. Hunt, '01, who have rendered conspicuous and gallant service as officers of the Regular Army before, during and since the World War. This scholarship will be granted each year and will be good for one year only. Application should be made direct to the Dean of the Faculty. The application cannot be approved without satisfactory evidence that the candidate *would be unable to attend without the aid of the scholarship.* Preference will be given to a New Hampshire soldier.

Concord Alumni Scholarship Fund.—The Concord Branch of Alumni of the University of New Hampshire recently voted to establish a scholarship fund. For the present, in accordance with the suggestion of the Concord Branch, money paid in from year to year will be em-

ployed as a part of the Student Loan Fund of the University. Ultimately, the principal and such interest as accrues will be transferred to a special scholarship fund.

Frank B. Clark Fund.—A trust fund of $10,000 has been provided by Frank B. Clark of Dover, N. H., the income of which is to be used for the purpose of assisting and encouraging needy and worthy students who are suffering from physical impairment or deformity.

"Students impaired by the loss of an arm shall receive prior consideration."

"The benefits of this gift are to be available to students in any secondary school or college except a secondary school or college which is under the direction or control of a church or religious affiliations or preferences, and with the further understanding that students at the University of New Hampshire shall be given prior consideration."

Dads'-Hetzel Scholarship Fund.—At the second annual Dads' Day at the University, the fathers present voted to establish a scholarship fund to be known as The Dads'-Hetzel Fund and subscribed $304. For the present this money will be employed as a part of the Student Loan Fund of the University. Ultimately the principal and such interest as accrues will be transferred to a special scholarship fund.

Edmund L. Brigham Scholarships.—The income of a trust fund of $4,812, provided by the will of Edmund L. Brigham, a member of the Class of 1876, is divided into two scholarships of equal sums each to be known as the Edmund L. Brigham Scholarship. They will be awarded at the end of each year to the two members of the freshman class who under the pressure or necessity of having to earn a portion of their college expenses show either a constant improvement in scholarship, or a high scholastic average, or both.

New Hampshire Branch of National Civic Federation Scholarship.—From the income of a fund of $1,000, established in June, 1930, by the New Hampshire Branch of the National Civic Federation, a scholarship is to be awarded annually to the junior woman majoring in economics or business who, at the end of her junior year, by excellence of scholarship, character and promise of leadership, is judged to be most worthy. The Dean of the College of Liberal Arts and the two ranking members of the Department of Economics shall name the winner of this scholarship in each year.

S. Morris Locke Memorial Scholarship.—The income of a fund of $3,000 established by the late Mary D. Carbee of Haverhill, N. H., as a memorial to Mr. and Mrs. S. Morris Locke, shall be known as the S. Morris Locke Memorial Scholarship. This scholarship is to be awarded each year to the highest ranking junior majoring in chemistry, entomology, or in any work where the microscope or microscopic technique is largely employed, who has demonstrated outstanding qualities of application, industry and initiative in any of these fields of work.

Cogswell Scholarships.—Through the generosity of the Trustees of the Cogswell Benevolent Trust of Manchester there will be available to members of the Class of 1934 during their senior year, 20 scholarships of $200 each and 10 of $100 each. These scholarships will be given to members of the class whose general record of scholarship, attainments and conduct during the freshman, sophomore, and junior years are adjudged by a committee of the Faculty to be most worthy. The committee will scrutinize closely the record of the junior year, and will give weight not only to the general excellence of the scholarship record, but to growth and improvement as well. Prior consideration will be given by the committee to the achievements of the members of the class who are residents of the Town of Henniker and the City of Manchester.

Hood Scholarships.—Through the generosity of Charles H. Hood, '80, there are available to qualified students in the College of Agriculture whose aims are set definitely to promote farming as a life opportunity five scholarships of $200 each. These scholarships are awarded to students who maintain high standards of scholastic excellence, strong characters and, in case of competition, are assigned in preference to students who intend after graduation to take up work relating to farm milk production.

Distribution of Loan and Scholarship State Assistance Funds by the Loan Committee.—For the present "Cash Loans" will be granted to needy Juniors and Seniors and "Deferred Tuition Loans" to needy Sophomores. "Free Scholarships" and "Deferred Tuition Loans" will be granted to needy Freshmen and Two-Year Agricultural Students.

Exceptions to the above procedure may be made by vote of the Loan Committee.

Cash Loan Fund.—Money will be loaned to needy juniors and seniors who are economical in their expenditures and who are working to pay

a portion of their expenses. These loans will bear interest at 2 per cent until graduation or withdrawal from the University, and 5 per cent after graduation or withdrawal and are payable as follows: $5 a month beginning one year after graduation or withdrawal; $10 a month beginning two years after graduation or withdrawal; $15 a month beginning three years after graduation or withdrawal; and a like sum each month thereafter until principal and interest are paid.

D. A. R. Loan Fund.—The Daughters of the American Revolution of New Hampshire have recently created a "Student Loan Fund" for the benefit of students of any educational pursuit. This fund is administered by the Student Loan Fund Committee of the University.

The John H. Pearson Trust.—In coöperation with the trustees of the John H. Pearson Estate, Concord, N. H., a student loan fund known as The John H. Pearson Trust has been established, and is administered under the conditions governing the University Loan Fund.

James B. Erskine Loan Fund.—In 1930, a bequest of Dr. James B. Erskine, of Tilton, provided a fund of $3,642 for loans to students; loans to bear interest at the rate of 5 per cent until paid. This fund will be reserved for members of the senior class.

S. Morris Locke Loan Fund.—Through a bequest of the late Mary D. Carbee of Haverhill, N. H., a fund has been created for loan purposes in memory of Mr. and Mrs. S. Morris Locke. The amount thus far received totals $16,830.

Deferred Tuition Loans.—In order to enable students to attend the University, who would be unable to do so without the aid of a loan, the University will grant loans to be applied toward tuition up to $100 in each college year. These loans will bear interest at the rate of 2 per cent until graduation or withdrawal from the University, and 5 per cent after graduation or withdrawal, and are payable as follows: $5 a month beginning one year after graduation or withdrawal; $10 a month beginning two years after graduation or withdrawal; $15 a month, beginning three years after graduation or withdrawal, etc.

PRIZES

Bailey Prize.—To endow the prize formerly offered by C. H. Bailey, '79, and E. A. Bailey, '85, a fund is being created by winners of the prize, the income of which will continue the prize for proficiency in chemistry.

Erskine Mason Memorial Prize.—Mrs. Erskine Mason of Stamford, Conn., has invested one hundred dollars as a memorial to her son, a member of the class of 1893, the income of which is to be given, for the present, to that member of the senior class who has made the greatest improvement during his course.

Interscholastic Debating Prize.—The University of New Hampshire Debating League was reorganized in 1921, and is under the direction of the instructor in debating and public speaking in the University. Any secondary school of the state is eligible for membership. Preliminary contests are conducted at the schools, and a final contest is held at the University to determine the winner of the League. A prize cup is awarded in rotation to the winners. Other prizes, such as medals and certificates, are awarded to individual debaters from time to time.

Interscholastic Prize Speaking Contest.—This contest, for students of any accredited high school of the state (provided they have not already won the first prize in a previous year) was first held in May, 1912. Three prizes are provided by the University for the winners.

University Inter-Fraternity Scholarship Trophy for Men.—Through the generosity of Wilford A. Osgood, '14, who has donated trophies for similar purposes in the past, a plaque is donated which is to be awarded each year to that fraternity whose members have the highest scholastic standing as certified by the Registrar.

Diettrich Cup.—This cup was given by the class of 1916 in memory of Rosina Martha Diettrich, a member of that class, who died a few weeks before graduation. The cup is to be awarded each year to the girl who attains the highest scholarship in her junior year. The cup is to remain in her possession throughout her senior year and until the next winner is named.

The American Legion Award.—The New Hampshire department of the American Legion as a mark of recognition of the University's contribution in the World War, and as an expression of its interest in national defense offers yearly a medal to that man in the senior class who has attained the highest distinction determined by achievement in military science, athletics, and scholarship. The name of the winner will be inscribed on a trophy. This trophy, made possible by the generosity of the American Legion of this state, is to remain in the permanent possession of the University.

Bartlett Prize.—Former Governor John H. Bartlett, Hon. '20, of Portsmouth, N. H., offers a prize of $50 each year, to be awarded at Commencement to that New Hampshire student, a member of the junior class, who ranks highest in scholarship for the year among those young men who have earned at least one-half their expenses since entering the University. This prize was awarded first in June, 1921.

Chi Omega Prize.—Mu Alpha Chapter of Chi Omega awards an annual prize of ten dollars at Commencement to the undergraduate woman student of the University who shall submit to the committee on award the best thesis on any subject dealing with problems of civic interest in sociology or economics. The title shall be approved by the head of the department concerned and the thesis shall be received, not later than June first, and graded by a joint committee composed of the heads of the departments of sociology, economics and English. If, however, no thesis is found by the committee to deserve the award, no prize shall be given.

Class of 1899 Prize.—The class of 1899 has given to the University a fund of $500, the income to be used as a cash prize to be awarded "by the Faculty to the senior who in their opinion has developed the highest ideals of good citizenship."

Phi Mu Medal.—The local chapter of Phi Mu offers a gold medal to a senior girl to be awarded on the following basis: 50 points for excellence in physical education, determined by both skill and the spirit in which the work is carried; the remaining 50 points must be attained by evidence of unusual scholastic capacity, democracy, loyalty, and helpfulness in college associations and activities. No candidate will be considered who does not have an average grade for her college work above 80.

Phi Sigma Prize.—In order to promote high scholarship in zoölogy and the allied sciences, the Phi Sigma national honor fraternity offers a prize of $25 to be awarded at Commencement to that senior who shall rank highest in zoölogical courses throughout the entire four years of collegiate work. The amount of work carried in biology, together with the average grade in all other courses shall be considered in making this award. The prize has been offered each year since 1921.

Hood Prizes.—Through the kindly interest and generosity of Charles H. Hood of the class of 1880, the income of funds given to the University

in 1921 and in 1924 will be used for the encouragement, aid, and benefit of deserving students.

In accordance with the suggestions of the donor, for the present the income will be expended as follows:

First. *Hood Achievement Prize.*—A gold medal will be awarded annually to that member of the senior class whom the members of the three upper classes choose as giving the greatest promise of becoming a worthy factor in the outside world through his character, scholarship, physical qualifications, personal popularity, leadership and usefulness as a man among men.

Second. *Hood Dairy Prizes.*—A part of the Hood income will be devoted each year to paying a portion of the expenses of the members of a team or teams chosen for excellence in judging dairy cattle and sent to participate in intercollegiate or other dairy contests. Suitable medals will also be provided for the individual members of such teams.

Third. *Hood Supplementary Bequest.*—The income from this bequest will be used for the purchase of a suitably inscribed trophy to become the property of the University. The names of the winners of prizes in dairy cattle judging are to be inscribed annually upon this trophy which will thus serve as a permanent record to the institution of their skill and accomplishment.

The Fairchild Memorial Prizes.—In 1927 Mask and Dagger, the dramatic society of the University of New Hampshire, established two prizes of twenty-five dollars each to be awarded at each Commencement to the two seniors who have done the most to promote dramatics during their four years at the University. These prizes are given in memory of Edward T. Fairchild, late president of the University.

Thomas J. Davis Prize.—By gift of Thomas J. Davis, Duluth, Minn., a native and former resident of Durham, a fund has been provided for the establishment of dairy and household science prizes as follows:

First. For competitive judging of dairy cattle by "short course students," excluding all four-year students, and allowing a suitable handicap in favor of students who are taking a course of not more than four months.

Second. To young women taking a short course for competitive bread baking as a half unit and for dairy butter making as another half unit.

Locke Prize.—The income of a trust fund of $3,000 bequeathed by the late Mary D. Carbee of Haverhill, N. H., as a memorial to Mr. and Mrs. S. Morris Locke, will be awarded at the end of each year to that junior majoring in Latin, who is adjudged by a committee of the Faculty to have excelled in the study of that language. In awarding the prize the committee shall give weight not only to the average grade in Latin, but also to the general record of scholarship, other attainments and character.

Alpha Xi Delta Cup.—A cup will be awarded annually by the Alpha Xi Delta sorority to the senior girl who proves herself to be the best athlete in her class. The cup will be awarded on consideration of the following qualifications: good sportsmanship, physical fitness, athletic achievements, and superior skill. The cup will be awarded by a board of judges including the members of the department of physical education for women, the president of the Association of Women Students and the president of the Women's Athletic Association.

Mask and Dagger Achievement Prizes.—In 1929 and in 1930, Mask and Dagger established two annual prizes of twenty-five dollars each to be known as the Mask and Dagger Achievement Prizes. These are awarded each year to the seniors who, during their college courses, have made the most outstanding artistic contributions to the dramatic work of the University.

Edward Monroe Stone Cup.—This handsome cup, presented in 1929 by Edward Monroe Stone,'92, is awarded annually to any fraternity or sorority for superior ability in intra-mural forensics. The debates are conducted by the local chapter of Tau Kappa Alpha, whose plans and methods relative to the awarding of the cup are subject to the approval of the instructor in charge of forensics. The cup will become the permanent possession of any fraternity or sorority winning it three times in succession.

Psi Lambda Cup.—Psi Lambda, the home economics club, each year awards a cup to the Home Economics senior who has shown the greatest improvement in personality and scholarship during her four years in college.

Alpha Chi Omega Prize.—A ten dollar prize will be awarded annually by Alpha Tau Chapter of Alpha Chi Omega to the undergraduate student of the University who submits to the head of the department of English

the best informal essay of less than three thousand words. The title may be chosen by the student. All essays must be written specifically for the Alpha Chi Omega Prize. Such essays will be due May 27 of each year. After the prize has been awarded, all essays will be returned upon request.

Delta Chi Trophy.—Delta Chi, honorary mathematics society, will present, at the end of each academic year, a silver cup to that member of the sophomore class, eligible for membership in the society, who during two years' courses in mathematics has demonstrated valuable mathematical ability, by ranking as one of the five high students in mathematics. General scholastic standing and personality shall also figure in determining the award. A committee consisting of the Dean of the College of Technology, the Dean of the College of Liberal Arts, the head of the department of Mathematics, the president of Delta Chi, and one other student member of the society shall determine the winner in each year.

Association of Women Students Award.—The Association of Women Students will award annually twenty-five dollars to the woman student who has proved to be of value to the women's student body, and who has shown by scholarship, self-help, leadership, and loyalty that she is worthy of this award.

Alpha Zeta Scholarship Cup.—A cup is awarded annually by the Granite Chapter of the Fraternity of Alpha Zeta to the sophomore in the College of Agriculture who has made the highest scholastic average during his first five terms' work. The winner is to have his name engraved on the cup and to hold it for one year.

General Chemistry Award.—The local chapter of Alpha Chi Sigma, professional chemistry society, engraves each year on a trophy placed in Charles James Hall, the name of the freshman who secures the highest average grade in chemistry.

STUDENT ACTIVITIES

Student Government

Student Council.—The Student Council exists to serve the undergraduate body as (a) a coördinating body between the University Administration and the student body, and to make recommendations to the Administration; (b) in coöperating with the student body, securing and

assuring the highest interests of morale on the campus; (c) in creating a group of student leaders to initiate, supervise, and administer student affairs of common concern. Members of the Council are elected by ballot each spring. The President of the Association of Women Students meets with the Student Council during consideration of matters pertaining to the whole University.

Association of Women Students.—The purposes of this Association, as stated in the Constitution of the organization are as follows: (a) to promote a sense of individual and collective responsibility among the women students in maintaining the highest standards of university life; (b) to promote the highest standards of honor and integrity in all matters of personal conduct; (c) to enact and enforce laws in all matters operating for the welfare of the women students and which do not fall under the immediate jurisdiction of the University Administration; (d) to encourage active coöperation in the work of self-government among the women of the University.

Casque and Casket.—A society which is composed of students of the upper classes, having an equal number of representatives from each fraternity. Its duty is to regulate the campus interfraternity relations. It is particularly charged with drawing rules governing the fraternity rushing period.

Pan Hellenic.—An organization designed to transact all business of common interest to the women's fraternities, including the regulation of the rushing period.

Religious Activities

Christian Work.—Christian community service is encouraged by various activities, including a reception to new students; publishing a handbook which is given to all new students; operating an employment bureau; providing a second-hand text-book exchange; and maintaining a club room.

The Advisory Board for Christian Work employs an inter-church student's pastor and a women's secretary. They coöperate with the Y. M. C. A. and Y. W. C. A. in the promotion of their work, as well as in carrying definite responsibility for the pastoral work among the students. General contributions are received yearly from the Baptist, Congregational, Methodist Episcopal, Episcopal, and Presbyterian organizations and the State Committee of the Y. M. C. A. Everything possible is done

in a social and pastoral way for the students of all religious denominations, whether Protestant, Catholic or Hebrew.

Students receive a cordial welcome at the services of the Community Church (Congregational). Roman Catholic services are held every Sunday morning in the auditorium in Murkland Hall, and all students of that faith are urged to participate. Christian Work conducts Sunday evening meetings, frequently with outside speakers, and other voluntary religious meetings, including occasional special assemblies with addresses of an inspirational character.

Menorah Society.—A local chapter of the Intercollegiate Menorah Association for the study and advancement of Jewish culture and ideals. Organized in 1928.

National Honor and Professional Societies

Phi Kappa Phi.—A national honorary fraternity founded at the University of Maine in 1897 for the purpose of promoting the highest grade of scholarship. A chapter was established at the University in 1922. Its membership is taken from the highest ranking members of the Senior class. New members are elected at the beginning of the first and third terms.

Alpha Zeta.—A national professional honor fraternity of agricultural students, organized at the University in 1903. Membership is honorary and is restricted to students obtaining high class standing or to graduates who have shown marked ability in agricultural study and research.

Phi Sigma.—A national honor society for students doing major work in biology who have completed a certain number of subjects with honor grades. Established in 1915.

Tau Kappa Alpha.—A national honor society which takes its membership from students who have been outstanding in debate and oratory. Established on the New Hampshire campus in 1925.

Kappa Delta Pi.—A chapter of the national educational society, organized from a local group formed on this campus in 1926.

Alpha Chi Sigma.—A professional fraternity with chapters in various colleges and universities. Members are elected from high ranking students whose major work is in the Department of Chemistry. Established on this campus in 1911.

Scabbard and Blade.—A national honorary military fraternity. The New Hampshire Company (Company F, Sixth Regiment) was organized in 1926.

Branch of the American Institute of Electrical Engineers.—A student organization conducted in accordance with the By-Laws of the Institute, whose meetings are given a place on the student's class schedule. The purpose of the organization is to promote interest in electrical engineering, to foster acquaintance and good fellowship among the faculty and students in the Department of Electrical Engineering.

Branch of the American Society of Mechanical Engineers.—An organization of upperclass men in mechanical engineering. Holds regular class meetings for the presentation and discussion of engineering papers by members and by visiting engineers.

Branch of the American Society of Civil Engineers.—An organization of upperclass students in civil engineering. Regular class meetings are held for the purpose of investigating by reading and discussion various engineering topics of the day.

Student Publications

"The New Hampshire."—A weekly newspaper, giving undergraduate and alumni news, published by an editorial board composed of students.

"The Granite."—An illustrated annual published by the Junior class.

"The New Hampshire Student Writer."—An annual collection of outstanding student compositions in prose and poetry. This publication is supervised by the Department of English.

Departmental Clubs

Agricultural Club.—An organization composed of students registered in the College of Agriculture. The primary object of the club is to discuss agricultural topics of scientific interest and to provide a common meeting-ground for all agricultural students.

Book and Scroll.—A literary society, composed of high ranking students in English.

Phi Lambda Phi.—An honor society whose members are students of high standing in Physics.

Le Cercle **Français.**—This society was established in the spring of 1919 to offer competent students an opportunity to acquire a speaking knowledge of the French language and to arouse and stimulate an interest in the intellectual life of France.

Alpha Sigma.—An organization established in 1925, whose membership is taken from high ranking students in Architecture.

Delta Chi.—A society founded in 1925, whose membership is taken from high ranking students in Mathematics.

Psi Lambda.—A society composed of high ranking students in Home Economics. Established in 1926.

"N. H." Club.—Membership in this organization is open to all men who have earned varsity athletic letters.

Classical Club.—This society, established in 1927, takes its members from students interested in Latin and Greek.

The University 4-H Club.—This organization is composed of students who have been engaged in boy's and girl's club extension work.

Dramatic and Musical Organizations

Mask and Dagger.—This is a dramatic club which aims to make a practical study of the drama and to present each year three plays on the stage of the "little theater" in Murkland Hall. Membership in this society includes students who have participated in plays or who have assisted in stage production.

University Band.—This is a military and concert organization whose membership is taken from members of the University Regiment and selected students. Academic credit is given for successful completion of each term's work. The band plays at various University functions and games.

Glee Club.—The Glee Club is divided into two organizations, one for men and one for women. Membership in the club is open to all undergraduates interested in choral singing who fulfill the requirements of a try-out. The club presents programs of choral singing several times each year.

Associated Student Organizations.—An organization composed of all extra-curricular activities, societies or groups for the purpose of securing a satisfactory administration of activity funds.

Athletic Association.—The Athletic Association, composed of the entire student body, was organized in 1897, for the conduct, in coöperation with the Administration and Faculty, of a wholesome program of intercollegiate sports. Every undergraduate automatically becomes a member of the Association at the time of registration. A ticket is issued to each student at that time which admits him to all home varsity athletic games.

Outing Club.—This organization, established in 1915, chiefly interested in life outdoors, maintains two cabins near the campus, encourages winter sports, hiking and other forms of outdoor recreation. Membership is open to all students.

Social Fraternities and Sororities.—The following fraternities and sororities have chapters on the New Hampshire campus. The dates listed indicate (1) date of founding as local fraternity (in parenthesis) and (2) date of granting of national charter.

Fraternities.—Kappa Sigma, (1894) 1901; Sigma Alpha Epsilon, (1894) 1917; Theta Chi, (1903) 1910; Lambda Chi Alpha, (1906) 1918; Alpha Tau Omega, (1907) 1917; Phi Mu Delta, (1914) 1918; Alpha Kappa Pi, (1921) 1931; Pi Kappa Alpha, (1921) 1929; Theta Upsilon Omega, (1921) 1925; Phi Alpha, (1922) 1924; Theta Kappa Phi, (1922) 1923; Alpha Gamma Rho, 1924; Phi Delta Upsilon, 1924; Tau Kappa Epsilon, (1926) 1932; Delta Epsilon Pi, 1927.

Sororities.—Chi Omega, (1897) 1915; Alpha Chi Omega, (1913) 1924; Alpha Xi Delta, (1913) 1914; Phi Mu, (1916) 1919; Kappa Delta, (1919) 1929; Theta Upsilon, (1926) 1930; Pi Lambda Sigma, 1929.

METHODS OF ADMISSION

Provided the special requirements of the separate colleges are fully met, the University will admit without examination properly prepared New Hampshire students who are graduates of high schools or academies of New Hampshire that are approved by the State Board of Education, or those who are graduates of other specially approved schools.

Applicants whose records do not give evidence of capacity, disposition, and preparation adequate for successful college study may be required to withdraw their applications or to submit to examinations to determine their fitness for college study. This applies directly to those who stand in the lowest quarter of their respective classes in the secondary school, and to others concerning whose qualifications there may be doubt. In so far as is practicable, officers of the University will arrange for personal conferences with such applicants.

The number of persons, not residents of New Hampshire, admitted each year is determined by vote of the Trustees and the following State law:

"The number of new students entering the University of New Hampshire from the states of Maine, Massachusetts, and Vermont shall not exceed eight per cent of the total enrollment of the entering class of the four-year course of the preceding University year; and the enrollment of new students, exclusive of those from the states of New Hampshire, Maine, Massachusetts, and Vermont, shall not exceed four per cent of the total enrollment of the entering class of the four-year course of the preceding year."

Each applicant for admission to the University will be required to submit two application forms: (1) an "admission credential" blank filled out by the headmaster or principal of the secondary school from which he is graduated; (2) a "personal statement" blank filled out by the applicant. These blanks are distributed through New Hampshire and other secondary school officials or they may be secured by application to the Dean of the Faculty, at Durham, to whom all such blanks should be forwarded.

In order to give ample time for the selection of the limited number of out-of-state students allowed, and for full investigation of New Hampshire applicants of doubtful preparation, it is desirable that applicants for admission, both from within and without the state, forward their

personal statements and credentials during the month of April, it being understood that the preparatory school work will be completed in June. Credentials should cover work done as nearly as possible to date of application, and they are not desired before April 1. Personal statements, however, may be forwarded at any preceding time.

Candidates for admission to the freshman class must show evidence, either by credential or examination, that they are prepared in 15 year units as indicated in the following table. In satisfying this requirement prospective students are advised that the best preparation for university work necessitates the presentation of not more than 4 units from Group F. This preparation will be required beginning September, 1935.

An entrance unit represents one study of four or five recitations a week for one year. It is assumed that two hours of manual training or laboratory work are equivalent to one hour of classroom work.

	Required Units	*College of Agriculture*	*College of Liberal Arts*	*College of Technology*
Group A	English	3	3	3
*Group B**	Mathematics	2	2	3
Group C	Social Science and History	1	1	1
Group D	Natural Science	1	1	1
Group E	Foreign languages	0	0	0
Group F	Vocational Subjects	0	0	0
		7	7	8†
	Elective Units	8	8	7
	Total for admission	15	15	15

Elective units may be offered from all groups, including a fourth year of English.

* At least two years of mathematics (one year of algebra and one year of plane geometry) are required for entrance except that a candidate for admission to the General Course of the College of Liberal Arts who offers two units in a single foreign language may substitute for the two units required in mathematics two additional units in subjects named in groups A, C, D and E above.

† Students entering the College of Technology must offer 15 units, three of which should be in mathematics including algebra, plane and solid geometry, but students with superior records offering only two units of mathematics including algebra and plane geometry may be admitted conditioned in one unit of mathematics.

Entrance examinations will be given at the University at the time of opening in September. Requests for these examinations should be forwarded to the Dean of the Faculty at least one week in advance.

Cases not covered by the above statements will be decided by the entrance committee of the Faculty.

Candidates for advanced standing may be admitted on the basis of the work completed at the institution from which they come.

Every candidate for admission to the University shall be required to procure a statement, signed by the town or city clerk, to the effect that the father or legal guardian is a resident of the town or city and state from which he purports to register. Students admitted from foreign countries or states other than New Hampshire shall be deemed to be non-resident students throughout the entire University course unless and until the parents or legal guardian shall have gained residence in New Hampshire.

Admission of non-resident candidates will be by selection, and only records of good grade will be considered; character, leadership, alertness, etc., will also be taken into account. Because of the large number of New Hampshire students needing financial assistance in the form of employment, only a very limited number of applications can be considered which do not give evidence of reasonable financial backing.

FRESHMAN WEEK

Freshman Week was instituted at the University of New Hampshire in 1924. It is evident from a study of the results of the activities of this week that it has served as a valuable means of adjusting freshmen to their new environment, of creating right attitudes towards college work and of minimizing the usual lost motion during the first few weeks of the regular term. By means of so-called "placement tests" the students will be sectioned according to their abilities and aptitudes. The week also affords an opportunity for the students to learn to know each other, to organize their efforts, to work together, to play together, and to become acquainted with the campus, the buildings, the Faculty and with the courses of study and the traditions of the University.

Attendance of all freshmen throughout Freshman Week, beginning Tuesday, September 12, and continuing through Saturday, September 16, will be obligatory. Any prospective candidate for the freshman class who is absent from the exercises beginning on September 12 will seriously imperil his admission to the University.

REQUIREMENTS IN DETAIL

GROUP A. ENGLISH

The requirement in English is that recommended by the National Conference on Uniform Entrance Requirements in English: *

"1. Habits of correct, clear, and truthful expression. This part of the requirement calls for a carefully graded course in oral and written composition, and for instruction in the practical essentials of grammar, a study which should be reviewed in the secondary school. In all written work constant attention should be paid to spelling, punctuation, and good usage in general as distinguished from current errors. In all oral work there should be constant insistence upon the elimination of such elementary errors as personal speech-defects, foreign accent, and obscure enunciation.

"2. Ability to read with intelligence and appreciation works of moderate difficulty; familiarity with a few masterpieces. This part of the requirement calls for a carefully graded course in literature."

Lists of books should be provided from which a specified number of units must be chosen for reading and study. These lists should be progressively difficult, ranging from the simpler books suitable to the earlier years in the secondary school to those requiring the closer study warranted in the later years. Such lists should include the following:

Novels by Scott, Eliot, Dickens, Hawthorne, and Cooper; *The Merchant of Venice*, *King Henry V*, *As You Like It*, *Hamlet*, and *Macbeth;* Milton's *Minor Poems;* Irving's *Sketch Book;* Coleridge's *Ancient Mariner;* the *Golden Treasury;* speeches by Washington, Burke, and Lincoln; collections of contemporary verse, of scientific writings, and of modern plays.†

GROUP B. MATHEMATICS

1. Elementary Algebra.—The four fundamental operations for rational algebraic expressions. Factoring, determination of highest common factor and least common multiple by factoring. Fractions, including complex fractions, and ratio and proportion. Linear and quadratic equations, both numerical and literal. Problems depending on linear and quadratic equations. Radicals, including the extraction of the square root of polynomials and of numbers. Exponents, including the fractional and negative.

* Reprinted from Document 123 of the College Entrance Examination Board.

† For more detailed information concerning the reading, write to Head of the English Department, University of New Hampshire, Durham, New Hampshire.

2. Advanced Algebra.—The formula for the *n*th term and the sum of the terms of arithmetical and geometrical progressions, with applications. The theory and use of logarithms, without involving the use of infinite series. The binomial theorem for positive integral exponents. Complex numbers, with graphical representation of sums and differences. Determinants limited to simple cases. The elements of the theory of equations.

3. Plane Geometry.—The usual theorems and constructions of good text-books, including the general properties of plane rectilineal figures; the circle and measurement of angles; similar polygons; areas; regular polygons, and the measurement of the circle. The solution of numerous original exercises, including loci problems. Applications to the measurement of lines and plane surfaces.

4. Solid Geometry.—The usual theorems and constructions of good text-books, including the relations of lines and planes in space; the properties and measurement of prisms, pyramids, cylinders and cones; the sphere and the spherical triangle. The solution of numerous original exercises, including loci problems. Applications to the measurement of surfaces and solids.

5. Plane Trigonometry.—The subject-matter of plane trigonometry as presented in good text-books, including the solution and use of trigonometric equations of a simple character, the use of logarithms, the solution of right and oblique triangles, and practical applications.

6. Review Mathematics.—A general mathematics review during half of senior year is recommended, especially for students preparing for college engineering courses. A certificate covering the work of not more than one unit will be accepted for entrance. No examinations will be given.

GROUP C. SOCIAL SCIENCE AND HISTORY

This group includes history, political economy, and commercial law.

Although there are excellent text-books in history, an adequate preparation cannot be obtained by these alone. Some collateral work is necessary, whatever book is used, and with certain ones a large amount is necessary. The details of the preparatory work in history are fully stated in "A History Syllabus for Secondary Schools," by the New England History Teachers' Association, published by D. C. Heath & Co., Boston, 1904. Details are also stated in "Standard Program for

the Secondary Schools of New Hampshire, State Department of Education, Concord, N. H."

1. Ancient History.—This may include the earliest nations and the period to 800 A.D., or it may be limited to Grecian History and Roman History to the fall of the Western Roman Empire.

2. Mediaeval and Modern History.

3. English History.

4. American History and Civics.—The work may conform to the course in American constitutional history described in the "Standard Program" or to the course in American history developed in nearly a hundred pages of the "Syllabus." It is assumed that in any case a reasonable amount of time is to be given to the study of the Constitution of the United States.

5. Political Economy.—(1) The study of a standard text. (2) At least six topics investigated by outside reading.

6. Commercial Law.—(1) Study of a standard text. (2) The study of a total of not less than thirty-six specific cases.

GROUP D. NATURAL SCIENCE

A notebook, carefully kept, and examined by the teacher, is an essential part of all laboratory work in science.

1. Botany.—The work in botany should consist of (1) the study of a standard text; (2) four or five exercises a week, at least one of which should be laboratory work. Either a half or the whole of a year's work will be accepted.

2. Chemistry.—Elementary inorganic chemistry should cover (1) the more common nonmetallic and metallic elements with their most important compounds, together with an introduction to the general theoretical principles; (2) calculations based upon changes of gaseous volumes and chemical equations. A year's work should consist of four or five exercises per week, at least one of which should be laboratory work.

3. Physics.—The standard work in physics should consist of (1) the study of a standard text; (2) not less than forty experiments worked out in the laboratory by each student and properly recorded in a suitable notebook.

4. Zoölogy.—A study of the fundamental principles of animal structure and the dissection of type forms. The student should become familiar with the characteristics of the various phyla of the animal kingdom. The study should consist of four or five exercises a week, at least one of which should be laboratory work. Either a half or the whole of a year's work will be accepted.

5. General Science.—To meet a recent movement in the disposition of the science work in the high schools, a course in general science which amounts to at least four exercises a week for one year will be accepted. Such a course may include something of the biologic and earth sciences, the sciences employed in household economy, and the more common phenomena of physics and chemistry.

GROUP E. FOREIGN LANGUAGES

1. French.—Work of the first year should include (1) careful drill in pronunciation, (2) drill upon the rudiments of grammar, (3) abundant translation of simple English prose into idiomatic French, (4) reading of from 100 to 175 pages of French prose, (5) writing French from dictation. Work of the second year should include (1) the reading of from 250 to 400 pages of easy modern prose, (2) constant practice in translating from English into French variations of the text read, (3) frequent paraphrases of the text read, (4) dictation.

2. German.—Work of the first year should include (1) careful drill in pronunciation, (2) drill upon the rudiments of grammar, such as the inflection of the articles, the common nouns, adjectives, pronouns and strong and weak verbs; upon the uses of the prepositions, the modal auxiliaries, and the rules of syntax and word order, (3) writing from dictation, (4) the reading of from 75 to 100 pages of prose, (5) translation from English into German. Work of the second year should include (1) the reading of from 150 to 200 pages of prose, (2) constant practice in translating from English into German variations of the text read, (3) dictation, (4) continued drill upon the rudiments of grammar, (5) frequent paraphrases of the text read.

3. Latin, Elementary.—Grammar and the equivalent of four books of Caesar. Two years' work.

4. Latin, Advanced.—Equivalent of Virgil, six books, and Cicero, six orations.

GROUP F. VOCATIONAL SUBJECTS

1. Agriculture (Smith-Hughes).—The work in agriculture covers ten periods a week throughout the school year and includes a study of and participation in the following, supplemented by at least six months of supervised, individual project work on the home farm:

a. Major, contributory and minor agricultural enterprises in the community based upon the results of a survey of local farm practice.

b. At least twenty per cent of the total time allotted each year is devoted to farm mechanics, comprising the daily jobs confronting the farmer in keeping his equipment in the best of condition and in doing the ordinary repair and construction work which arises on the farm.

c. Agricultural economics and farm management are considered each year in relation to each of the three types of enterprises. In addition, part of the work of the senior year is devoted to a synthesis and extension of the principles applied in connection with the three types of enterprise in each of the three preceding years.

Centering around the farm job and the home project, the activities of the pupils include discussions, surveys, directed study, demonstrations, field trips and manual work.

2. Commercial Subjects.—Junior business training, commercial arithmetic, bookkeeping, commercial geography and history, stenography and typewriting, office or secretarial practice.

3. Domestic Arts.—Textiles and clothing, foods and nutrition, the home, its care and management, the family and its members, and child development.

4. Mechanic Arts.—Cabinet making and wood turning, pattern making and molding, tool forging and work on lathe, shaper, planer, drill press and milling machine, electrical work, automobile mechanics and repair, printing, related mechanical drawing, shop mathematics, shop physics, mechanics, shop organization.

SPECIAL COURSES

A mature student who is not a candidate for a degree may be admitted as a special student for one year upon the approval of the entrance committee and the dean of the college in which he desires to work. In addition, each application for a course must have the approval of the

head of the department whose work the applicant desires to take. No credit earned by a special student shall count toward a degree except upon recommendation of the entrance committee and the vote of the appropriate college faculty.

ADMISSION BY TRANSFER

A candidate for admission to advanced standing from an institution of collegiate rank may receive credit without examination for work completed at such institution subject to the following requirements:

(1) He must present a catalog of the institution from which he comes together with an official certificate showing (a) all preparatory subjects accepted for entrance, (b) a complete transcript of his record including grade of scholarship in each subject, (c) a statement of honorable dismissal.

(2) All candidates for the bachelor's degree, admitted to advanced standing, must spend their last year in residence, either in course or in summer school. This requires the completion of at least 150 time units of work.

(3) Regardless of the amount of advanced standing a student may secure, in no case will he be given a bachelor's degree until he has satisfied the full requirements of the curriculum he may elect.

THE GRADUATE SCHOOL

AIMS

The Graduate School aims to meet the needs of superior students who are preparing to become teachers in colleges or universities, or investigators, and to offer opportunities to qualified students for a more advanced training than they can obtain in an undergraduate curriculum.

ADMINISTRATION

Graduate work is offered, under the supervision of the Dean of the Graduate School, by competent members of various departments of instruction and research. These members constitute the Faculty of the Graduate School.

The general administrative functions of the Faculty are delegated to the Dean and the Council.

ADMISSION

A student who holds a bachelor's degree, or its equivalent, from an approved college or university, is eligible for admission to graduate study.

Admission to graduate study does not necessarily imply admission to candidacy for an advanced degree. Students who are not planning to become candidates for an advanced degree may be admitted to graduate study upon the recommendation of the heads of the departments concerned, and with the approval of the Dean.

A student may major only in the departments represented in the catalog of the Graduate School. However, a graduate student who is not a candidate for an advanced degree may be admitted to graduate study in departments not represented in the Graduate School catalog, upon recommendation of the departments concerned and with the approval of the Graduate Council.

REGISTRATION

A student desiring to register for graduate study must submit to the Dean of the Graduate School the official application for admission to graduate study. Blanks for this purpose may be obtained from the Dean of the Graduate School.

Upon admission to graduate work, a student first pays his fee at the Business Office and deposits his enrollment cards with the Registrar.

REQUIREMENTS FOR GRADUATE CREDIT

Graduate credit will not be allowed to undergraduate students unless such credit has been approved in advance by the Dean of the Graduate School.

A student will not receive graduate credit for a course in which he has obtained a grade lower than 70.

ADVANCED DEGREES

Two types of advanced degrees are conferred: (a) Master of Science, Master of Arts and Master of Education given only in course and (b) the professional degrees, Mechanical Engineer, Electrical Engineer and Civil Engineer conferred only upon graduates of this institution, and based upon the quality of their professional work and the presentation of a satisfactory thesis. Information in regard to the professional degrees may be obtained from the Dean of the College of Technology.

Requirements for the Master's Degree

Residence.—A minimum of one full academic year, or four summer sessions, in residence, is required.

Credits.—An average grade of at least 80 in not less than 45 credit hours is required, of which not less than 25 or more than 30 credit hours shall be devoted to the major course (including the thesis), and not less than 9 or more than 15 credit hours to the minor courses. Work in allied departments may be properly correlated with the major course. Not over 15 credits may be given for a thesis. Of the total credits required for an advanced degree, not more than half will be accepted on admission from another institution.

Candidacy.—At least six months previous to the time the degree is sought an application for admittance to candidacy must be submitted to the Council for their approval; and if a thesis is required, the candidate must file with the Council, for their approval, a statement of the thesis subject as recommended by the head of the department in which the thesis work has been done.

Thesis.—All theses must be typewritten upon standard paper, eight and one-half by eleven inches, medium weight, neatly bound in black cloth, and gilt-lettered on the first cover with the title, name of author, degree sought, and year of graduation. The title page should bear the following statement:

"A thesis submitted to the University of New Hampshire in partial fulfillment of the requirements for the degree of Master of Arts (Master of Science, Master of Education)."

Whenever a thesis is printed in any periodical, it must be designated as having been accepted as a Master's thesis by the University of New Hampshire.

Two bound copies must be filed before Commencement Day, one with the Librarian and one with the head of the department in which the major work has been done.

Examinations.—All candidates must meet the regular departmental requirements as to examinations in the courses for which they are registered, and the requirement of a special comprehensive examination, by the heads of the departments in which the major and minor courses have been taken, three months previous to the time the degree is sought. In addition, the candidate must pass an oral examination by a special committee designated by the Council and including the heads of the departments in which the major and minor courses have been taken, before the candidate may be recommended for the Master's degree.

For detailed information concerning graduate study see catalog of the Graduate School.

PROFESSIONAL DEGREES IN ENGINEERING

Mechanical, Electrical, and Civil Engineering graduates of the University of New Hampshire are eligible to register as candidates for professional degrees in these three branches of engineering.

These degrees will be granted, after the preparation of acceptable theses, to those having not less than four years' professional experience subsequent to the bachelor's degree, in which the applicants have wholly or in part supervised, directed or designed engineering work; or have been in responsible charge of instruction or research in engineering. The acceptability of the theses and professional experience is determined by an examining committee.

Procedure.—The procedure for candidates for professional engineering degrees is as follows:

(1) Prepare an outline for a thesis after consultation with the head of the department concerned. This consultation may be by letter.

(2) When the thesis subject is accepted by the head of the department in which the degree is to be taken, the candidate will be registered

in the Registrar's Office. This registration must be completed by October 1st of the academic year in which the degree is to be conferred.

(3) The first draft of the thesis must be submitted to the professor in charge not later than March 1st, and the completed thesis in its final form by May 1st.

(4) Pass an examination at the University covering the candidate's professional practice and the engineering principles underlying the thesis.

(5) Pay the diploma fee of $5.00 at the Business Office not later than 12 noon of the Saturday next preceding the date when the degree is conferred.

Thesis.—The thesis must be typewritten upon standard paper, eight and one-half by eleven inches, medium weight, neatly bound in black cloth, and gilt-lettered on the first cover with title, name of author, degree sought, and year of graduation. The title page should bear the following statement:

"A thesis submitted to the University of New Hampshire in partial fulfillment of the requirements for the professional degree of Mechanical Engineer (Electrical Engineer, Civil Engineer)."

Whenever a thesis is printed in any periodical, it must be designated as having been accepted as a Professional Engineering thesis by the University of New Hampshire.

Two bound copies must be filed before Commencement Day, one with the Librarian and one with the head of the department in which the major work is done.

UNDERGRADUATE DEGREES

The University confers two undergraduate degrees: Bachelor of Science and Bachelor of Arts.

Agriculture and Technology: The degree of Bachelor of Science is conferred upon students graduating from the College of Agriculture and from the College of Technology.

Liberal Arts: The degree of Bachelor of Science is conferred upon students graduating from the College of Liberal Arts who have elected a prescribed curriculum in General Business, Home Economics, Pre-Medical, Professional Education, or who have majored in the General Arts Curriculum in any of the following departments: Architecture, Botany, Chemistry, Economics and Accounting, Education, Entomology, Geology, Mathematics, Physics, Sociology, Zoölogy.

UNDERGRADUATE DEGREES

The degree of Bachelor of Arts is conferred upon students graduating from the College of Liberal Arts who have elected a prescribed curriculum in Pre-Law or who have majored in the General Arts Curriculum in any of the following: Art in the department of Architecture, English, French, German, Latin, Spanish, History, Music, Philosophy, Psychology, Political Science.

COLLEGE OF AGRICULTURE REQUIREMENTS

The completion of 216 credits.

The completion of the courses prescribed in one of the major four-year curricula.

Students graduating from the four-year curriculum in Animal Husbandry, Dairy Husbandry, Teacher-Training or General Agriculture must present to the Dean of the College of Agriculture, at least two weeks prior to Commencement, satisfactory evidence of having had practical experience in farm work, either through having lived on a farm for at least two years subsequent to the age of 12, or through having worked on a farm for at least six months subsequent to the age of 16.

Students graduating from the Forestry Curriculum must have spent at least three months in practical forest work, in addition to attendance at a six weeks' summer camp under supervision of the forestry department.

Students graduating from the Horticulture Curriculum or the Poultry Curriculum must have spent five months, including the spring term of the junior year, in supervised practice work on a farm of recognized standing.

COLLEGE OF LIBERAL ARTS REQUIREMENTS

Completion of 216 credits of which 18 may be required each term.

Completion of courses required in any one of the four-year curricula offered by the College of Liberal Arts.

Year-Courses

Several courses for freshmen in the College of Liberal Arts are arranged as continuing through the year and are designated as "year-courses". Registration in September for year-courses will cover the entire work of the year. Final grades and credit for year-courses will be recorded by the Registrar only when a year-course is completed in June.

The courses listed below are year-courses for freshmen registered in the College of Liberal Arts. They may be taken as term-courses by students registered in Technology and Agriculture.

Cont. Civil. 1-a, 2-b, 3-c
English 1-a, 2-b, 3-c
English 4-a, 5-b, 6-c
Geology 1-a, 2-b, 3-c
History 4-a, 5-b, 6-c
Home Economics 100-a, 101-b, 102-c
Zoölogy 1-a, 2-b, 3-c

All courses offered by the Department of Languages and the Department of Physical Education for Women are year-courses for students registered in the College of Liberal Arts. They may be taken as term-courses by students registered in Technology and Agriculture.

Curriculum Requirements

1. *General Liberal Arts Curriculum.*

The General Liberal Arts Curriculum is divided into a Lower Division, including the freshman and sophomore years, and an Upper Division, including the junior and senior years.

Lower Division (Freshman and Sophomore Years)

A. General.

Completion of the following prescribed courses:

Convocation	Freshman and sophomore years
Freshman Assembly	Freshman year—Fall term
*English 1a, 2b, 3c	Freshman year
Physical Education 51a, 52b, 53c	Freshman year—Men
Physical Education 1a, 2b, 3c	Freshman year—Women
Physical Education 54a, 55b, 56c	Sophomore year—Men
Physical Education 4a, 5b, 6c	Sophomore year—Women
Military Science 1a, 2b, 3c	Freshman year—Men
Military Science 4a, 5b, 6c	Sophomore year—Men

B. Special.

Completion of a second year's work in *English during sophomore, junior or senior year. Completion of two full years, elected from each of the following three groups of courses. Not less than one year's work in any given course shall count toward the fulfillment of this requirement.

Group 1.

a. Mathematics.

b. History.

c. English, French, German, Latin, Spanish.

Group 2.

Botany, Chemistry, Entomology, Geology, Physics, Zoölogy.

*Not to be used to meet group requirements.

Group 3.

Contemporary Civilization, Economics, Education, Political Science, Psychology, Philosophy, Sociology.

C. Selection during the freshman year of a tentative program of study which must be approved by the Dean of the College of Liberal Arts. This program may be changed with the approval of the Dean at the beginning of any term.

Eligibility

The Dean of the College of Liberal Arts shall determine the eligibility of a student to enter the Upper Division.

Upper Division (Junior and Senior Years)

A. Convocation (Junior year).
B. Physical Education 7a, 8b, 9c (Junior year—women).
C. Election of a major program of study.

The head of each major department shall designate a major program of study which will make up 54 credits in the major and related departments exclusive of elementary courses. They shall constitute a major program of study in which the student must secure a grade of 75 or better in each course to the total of 36 credits. The major program of study selected, together with the related courses totaling 54 credits, shall become the student's required work, and a copy of the schedule of courses, approved by the head of the major department and by the Dean, shall be filed in the office of the Dean. The student shall choose enough electives to make up 216 credits for the four-year curriculum.

A student may not change his major department except with the approval of the Dean and the head of the department to which he is transferring.

2. *Prescribed Curricula* (College of Liberal Arts).

a. The following prescribed curricula lead to a degree of Bachelor of Science: General Business; Professional Education; Home Economics, Teacher Training, Institutional Management, Extension Training; Pre-Medical.

They require the completion of 216 credits having an average of 18 credits each term and the completion of the special curriculum requirements.

b. The prescribed curriculum of Pre-Law leads to a degree of Bachelor

of Arts. It requires the completion of 216 credits and the completion of special curriculum requirements.

3. *Honors* (Senior year).

Work in Honors is of a more mature and advanced nature than work offered in the general and prescribed curricula. It is of a sort intended to encourage individual initiative and to conserve the resourcefulness of the student.

Honors work is of two kinds:

1. Honors based on special work undertaken in addition to the regular program of general and prescribed curricula.

2. Honors based on work superseding that of the regular major curriculum requirements of the upper division.

At the beginning of his senior year, a student who has met his curriculum requirements and who has shown promise in the work of his freshman, sophomore, and junior years may pursue Honors if nominated by his major adviser and if approved by the Dean. The student working in Honors may have the following privileges:

a. He may carry a regular schedule, if doing quality work.

b. He may substitute Honors for his prescribed or major curriculum requirements of the upper division.

c. His attendance is regulated by agreement with his instructor.

In addition to weekly reports and conferences, such tests as may seem best in his case are given to each student at the end of each term. At the end of the year the student is given comprehensive written examinations and an oral examination.

If, for any reason, a student fails to show proper appreciation of the privilege of pursuing Honors, he will be given examinations at the end of any term, and work successfully passed will be evaluated, by the committee in charge, toward graduation.

COLLEGE OF TECHNOLOGY REQUIREMENTS

The completion of 216 credits.

The completion of the courses required in any one of the four-year curricula.

FOUR-YEAR CURRICULA

COLLEGE OF AGRICULTURE

M. Gale Eastman, *Associate Dean*

DEPARTMENTS

Agricultural and Biological Chemistry
Agricultural Economics
Agronomy
Animal Husbandry
Botany
Dairy Husbandry
Entomology
Forestry
Horticulture
Poultry Husbandry

This college of the University offers a four-year curriculum for the general education and scientific training of students in the various phases of agriculture. The lecture and recitation work of the classroom is supplemented largely by practical exercises in the laboratories. Seminar courses are also given, especially for seniors and advanced students.

During the freshman and sophomore years all agricultural students, with the exception of those in the forestry curriculum, take the same work. At the beginning of the junior year the students select whatever major curriculum they desire to complete. Forestry students begin their specialized work in the freshman year. The work of the first two years for all of the agricultural students consists mainly of courses in the fundamental sciences of agriculture and of basic courses in the various departments of applied agriculture.

Many of the graduates of the four-year curriculum return to the farm for the purpose of putting into practice the knowledge and training of their college work, and many of them have become successful and prosperous citizens of their communities; others, who have no farms of their own, accept salaried positions as superintendents or foremen on the dairy, fruit, stock or poultry farms of large owners; still others take positions as teachers of science and agriculture in our secondary schools, or as assistants in our agricultural colleges, experiment stations or extension service work.

The major curricula from which the agricultural student may now make his selection are as follows:

1. General Agriculture.
2. Agricultural and Biological Chemistry.
3. Animal Husbandry.
4. Dairy Husbandry.
5. Forestry.
6. Horticulture.
7. Poultry Husbandry.
8. Teacher Training.

General Agriculture.—This curriculum is offered especially for the student who wishes to secure a broad, general training in all the important branches of agriculture without specializing in any particular one. The fundamental sciences of chemistry, botany, biology, physics and economics are studied together with their application to the arts of field crop production, orcharding, dairying, farm management, poultry raising and the handling of the farm woodlot. The student, therefore, who expects to engage in general farming will find this so-called general curriculum with its wide range of elective courses a most profitable and interesting one.

This curriculum also offers an opportunity to the student who wishes to specialize in some line of extension work like that of a county agent, a boys' club leader, a marketing or farm management investigator, or a soils and crops specialist.

Agricultural and Biological Chemistry.—Students majoring in this curriculum receive training in the various branches of general chemistry and in their application to the growth and development of plants and animals. The methods used in the chemical analysis of plants and agricultural products and in the study of animal nutrition and metabolism are given especial attention. Aside from the technical and general requirements, numerous electives are offered which enable the student to obtain a more general training, to elect work in the applied departments of the college, or to obtain the professional work needed for teaching in the schools of the state. The curriculum is designed to provide a thorough foundation for those expecting to prepare themselves for teaching and research in colleges and experiment stations. The department is fortunate in being associated with the experiment station and in that connection having charge of the chemical analysis of feeds and fertilizers for the State Department of Agriculture. This furnishes an opportunity for the students to come in contact with the inspection and research work of the department and to have the benefit of its equipment.

Animal Husbandry.—This curriculum is offered to the student who wishes a specialized training in the practical and intelligent management, selection, breeding and feeding of livestock, including horses, beef and dual purpose cattle, sheep and swine. This work is arranged so that the student may elect a reasonable number of courses in horticulture, forestry, dairying, poultry keeping and other branches of general farm activity, thus fitting him for the management of a general livestock

farm. The curriculum also serves to prepare students for the more specialized requirements of civil service and other public employment.

Dairy Husbandry.—The dairy husbandry department offers courses in dairy production (the care, feeding and management of dairy cattle), and in dairy manufactures (the manufacture, handling, and distributing of dairy products). The department has at its disposal the dairy building, with modern equipment, and the college dairy herd of 105 pure bred animals. Excellent facilities are thus provided for teaching dairy husbandry courses.

Forestry.—The training and instructional work in forestry is intended to meet the needs of three classes of students: (1) those who wish to fit themselves for positions as forest rangers and lumbermen in less than four years; (2) those who desire to secure four years' training in the science and practice of forestry, and (3) those who desire a foundation for graduate and professional work in forestry.

The college forest of 500 acres is near the campus so that it is possible to use the unusual variety of forest types on the University holdings in class work. This means that the student gets actual first-hand experience in handling a tract which comprises stands ranging in age from 5 to 250 years. The fifty acres of old growth pine and hemlock make up the finest area of its kind in New England.

Students spend six weeks in a forestry camp during the summer after their second year to get practical experience in camp life and in the survey, valuation and management of large tracts of woodland. This camp training is required of all forestry students.

Horticulture.—The object of the instruction in fruit or vegetable growing is to equip the students with a knowledge of fundamental sciences such as can be obtained only through university training, and to help them form the habit of using this knowledge in solving practical problems. In order to emphasize the relation between science and practice and to give the uninitiated a more intimate contact with the problems which they will need to solve, a five months' period of practice work is required of students in the junior year. The study of insects and diseases (the control of which forms an important part of the work of the horticulturist) is required, as is also work in plant physiology which forms a basis for understanding the growth and development of plants. During the junior and senior years opportunity is given for the student to elect courses in other branches of agriculture which may be helpful in meeting his own particular problem. Students who successfully com-

plete this work may feel prepared to undertake either practical farming or further training along technical lines which will fit them for professional work in teaching or research.

The courses in landscape gardening and ornamental horticulture are designed to qualify the student to supervise private estates, public parks, and landscape developments. The student is prepared to design plans, select plant materials, and supervise the planting of town or private properties, a professional service offered by modern nurseries.

The courses in floriculture teach the student to know and appreciate foliage and flowering plants in the conservatory, the home, and in outdoor plantings. Modern methods of propagation, care and use of these materials are studied.

Sufficient work is offered in apiculture to enable students to engage in beekeeping for pleasure, honey production, and for the purpose of pollinating fruit trees and other plants.

The department is well equipped with gardens, orchards, grading and packing plant, bee equipment, greenhouses and laboratories, for the study of the different phases of this industry.

Poultry.—This curriculum is designed for those students who desire the necessary information and training to operate a poultry plant, or to teach poultry husbandry. The college plant, with a capacity of 2000 hens, affords ample opportunities for laboratory work and for meeting all the practical problems of the industry which the poultryman may encounter. As a part of the prescribed work, the student who has not had sufficient previous experience will be required to spend five months, including the spring term of the junior year, at a commercial plant of recognized standing.

Teacher Training.—Under the provisions of the Smith-Hughes Act, the University of New Hampshire has been designated as the institution in this state for the training of teachers of agriculture. This curriculum gives the young man a broad training in the fundamental sciences and in general agriculture. In addition, he receives professional training in such educational courses as psychology, principles of education, methods of teaching and supervised practice teaching. Students who complete the curriculum and who have had the requisite amount of practical experience on a farm will be accredited as teachers.

There is a rapidly increasing demand for teachers of agriculture in our secondary schools. Local school boards are beginning to appreciate more fully the value of instruction in agriculture for the boys of the

community who will not have the opportunity to continue their studies at the University. As a result, there are many good positions open for the young men who wish to make the teaching of agriculture a profession.

COLLEGE OF AGRICULTURE

Freshman Year

(All curricula except Forestry)

	Fall Term Credits	*Winter Term Credits*	*Spring Term Credits*
Convocation (*Required*)			
Freshman Assembly (*Required Fall Term*)			
Mil. Sci. 1–a, 2–b, 3–c	1½	1½	1½
Phys. Ed. 51–a, 52–b, 53–c	½	½	½
Eng. 1–a, 2–b, 3–c (*English Composition*)	3	3	3
Bot. 1–a, 2–b, 3–c (*Elementary Botany*)	4	4	4
Chem. 1–a, 2–b, 3–c (*Inorganic Chemistry*)	4	4	4
A. H. 1–a, (*Breeds of Livestock*)	3		
Math. 21–a, 22–b (*Elements of Mathematical Analysis*)	3	3	
Zoöl. 30–b, 31–c (*General Zoölogy*)		3	3
For. 1–c (*Principles of Forestry*)			3
	19	19	19

Sophomore Year

(All curricula except Forestry)

Convocation (*Required*)			
Mil. Sci. 4–a, 5–b, 6–c	1½	1½	1½
Phys. Ed. 54–a, 55–b, 56–c	½	½	½
Phys. 1–a, 2–b (*Introductory Physics*)	4	4	
Agr'l Chem. 1–a, 2–b (*Agricultural Chemistry*)	5	5	
Agron. 1–a (*Agricultural Engineering*)	3		
Ento. 1–a (*Economic Entomology*)	4		
D. H. 1–b (*Milk and Its Products*)		4	
Geol. 101–b (*Elementary Geology*)		3	
Bot. 10–b, 11–c (*Bacteriology*)		3	3
Agron. 4–c (*Soils*)			4
Hort. 1–c (*Vegetable Gardening*) or Hort. 3–c (*Elementary Pomology*)			3
Poul. 1–c (*Farm Poultry*)			3
†A. H. 2–c (*Livestock Judging*)			2
†D. H. 2–c (*Dairy Cattle Judging*)			2
†Hort. 19–c (*Beekeeping*)			2
†M. E. 7–c (*Agricultural Drawing*)			2
†M. E. 13–c (*Woodshop*)			2
	18	21	17

† One of the five courses noted must be taken; Teacher-Training students must take Woodshop.

Junior and Senior Years

Note 1.—At the beginning of the junior year each student will choose his major curriculum. His registration card must then be approved by the head of the department in which the major is taken.

Note 2.—During the junior or senior year 6 term hours of so-called cultural courses must be taken by all students, except those in the Teacher-Training curriculum.

GENERAL AGRICULTURE

Junior Year

	Fall Term Credits	*Winter Term Credits*	*Spring Term Credits*
Convocation (*Required*)			
Econ. 1–a, 2–b, 3–c (*Principles of Economics*)	3	3	3
Agron. 2–a (*Field Crops*)	3		
A. H. 3–a (*Feeds and Feeding*)	3		
Zoöl. 32–a (*Genetics*)	3		
Agr'l Ec. 3–b (*Rural Economics*)		3	
Agron. 3–b (*Field Crops*)		3	
Agr'l Ec. 4–b (*Farm Accounting*)		3	
Eng. 47–c (*Public Speaking*)			3
Elective	6	6	10
	18	18	16

Senior Year

Agr'l Ec. 2–a (*Farm Management*)	4		
Eng. 101–a (*Expository Writing*)	2		
Agron. 6–b (*Fertilizers*)		3	
Elective	11	15	16
	17	18	16

AGRICULTURAL AND BIOLOGICAL CHEMISTRY

Junior Year

	Fall Term Credits	*Winter Term Credits*	*Spring Term Credits*
Convocation (*Required*)			
Agr'l Chem. 4–a, 5–b, 21–c (*Physiological*)	5	5	5
Chem. 25–a, 26–b, 27–c (*Introductory Analysis*)	3	3	3
Chem. 40–a, 41–b, 42–c (*Organic*)	3	3	3
Econ. 1–a, 2–b (*Principles of Economics*)	3	3	
Eng. 101–a (*Expository Writing*)	2		
†Agr'l Ec. 3–b (*Rural Economics*)		3	
Eng. 47–c (*Public Speaking*)			3
Phys. 3–c (*Introductory Physics*)			4
Elective		1	
	16	18	18

Senior Year

Agr'l Chem. 7–a, 8–b, 9–c (*Agricultural Analysis*)	4	4	4
Chem. 43–a, 44–b, 45–c (*Organic Laboratory*)	2	2	2
Chem. 66–a, 67–b, 68–c (*Physical*)	2	2	2
‡Agr'l Chem. 6–b (*Plant Chemistry*)		4	
German or French	3	3	3
Elective	7	3	4
	18	18	15

† This course will be scheduled in the senior year in alternate years beginning with 1933–34.

‡ This course will be scheduled in the junior year in alternate years beginning with 1934–35.

ANIMAL HUSBANDRY

Junior Year

	Fall Term Credits	*Winter Term Credits*	*Spring Term Credits*
Convocation (*Required*)			
Econ. 1–a, 2–b, 3–c (*Principles of Economics*)	3	3	3
Agron. 2–a (*Field Crops*)	3		
A. H. 3–a (*Feeds and Feeding*)	3		
A. H. 4–a (*Animal Anatomy*)	3		
Zoöl. 32–a (*Genetics*)	3		
Agr'l Ec. 3–b (*Rural Economics*)		3	
Agr'l Ec. 4–b (*Farm Accounting*)		3	
A. H. 5–b, 6–c (*Animal Diseases*)		3	3
Agr'l Chem. 20–c (*Chemistry of Animal Nutrition*)			5
A. H. 9–c (*Sheep and Swine*)			4
Eng. 47–c (*Public Speaking*)			3
Elective	3	6	
	18	18	18
*Acct. 131–a, 132–b, 133–c (*Elementary Accounting*)	3	3	3
*D. H. 9–a (*Dairy Bacteriology*)	4		
*Agron. 3–b (*Field Crops*)		3	
*P. H. 5–b (*Poultry Management*)		3	
*P. H. 7–b (*Incubation*)		4	
*P. H. 9–c (*Poultry Feeding*)			4
*Zoöl. 40–b, 41–c (*Embryology*)		4	4

Senior Year

Agr'l Ec. 2–a (*Farm Management*)	4		
A. H. 7–a (*Animal Breeding*)	4		
Eng. 101–a (*Expository Writing*)	2		
Agron. 6–b (*Fertilizers*)		3	
A. H. 10–b (*Horses and Beef Cattle*)		4	
Ento. 3–b (*Insects of Domestic Animals*)		3	
A. H. 8–c (*Markets and Products*)			3
A. H. 12–c (*Seminar*)			2
Elective	6	7	10
	16	17	15
*D. H. 3–a, 3.5–b (*Milk Production*)	4	3	
*Agr'l Ec. 1–a (*Coöperative Marketing*)	3		
*For. 27–a (*Farm Woodlot*)	3		
*Met. 1–a (*Elementary Meteorology*)	3		
*Agron. 5–b (*Electric Farm Power*)		3	
*Hort. 6–b (*Advanced Pomology*)		3	
*Econ. 18–c (*Marketing*)			3

*Recommended electives.

DAIRY HUSBANDRY

Junior Year

	Fall Term Credits	*Winter Term Credits*	*Spring Term Credits*
Convocation (*Required*)			
Acct. 131–a, 132–b, 133–c (*Elementary Accounting*)	3	3	3
Econ. 1–a, 2–b, 3–c (*Elementary Economics*)	3	3	3
D. H. 7–a (*Butter Making*)	3		
D. H. 9–a (*Dairy Bacteriology*)	4		
Zoöl. 32–a (*Genetics*)	3		
Agr'l Ec. 3–b (*Rural Economics*)		3	
D. H. 4–b (*Testing Dairy Products*)		3	
Agr'l Chem. 20–c (*Chemistry of Animal Nutrition*)			5
D. H. 11–c (*Judging Dairy Products*)			1
Econ. 106–c (*Business Organization*)			3
Eng. 47–c (*Public Speaking*)			3
Elective	2	6	
	18	18	18
*Agron. 2–a (*Field Crops*)	3		
*A. H. 3–a (*Feeds and Feeding*)	3		
*A. H. 4–a (*Animal Anatomy*)	3		
*P. H. 5–b (*Poultry Management*)		3	
*Agron. 3–b (*Field Crops*)		3	
*Agr'l Ec. 4–b (*Farm Accounting*)		3	
*A. H. 5–b, 6–c (*Animal Diseases*)		3	3

Senior Year

D. H. 3–a, 3.5–b (*Milk Production*)	4	3	
Agr'l Ec. 2–a (*Farm Management*)	4		
Eng. 101–a (*Expository Writing*)	2		
D. H. 5–a (*Market Milk*)	4		
Agron. 6–b (*Fertilizers*)		3	
Agron. 5–b (*Electric Farm Power*)		4	
Agr'l Chem. 19–c (*Dairy Chemistry*)			3
D. H. 6–c (*Ice Cream and Cheese*)			4
D. H. 10–c (*Dairy Seminar*)			2
D. H. 13–c (*Advanced Dairy Science*)			4
Elective	3	7	2
	17	17	15
*Agr'l Ec. 1–a (*Coöperative Marketing*)	3		
*A. H. 7–a (*Animal Breeding*)	4		
*For. 27–a (*Farm Woodlot*)	3		
*Met. 1–a (*Elementary Meteorology*)	3		
*Ento. 3–b (*Insects of Domestic Animals*)		3	
*Hort. 6–b (*Commercial Pomology*)		3	
*A. H. 9–c (*Sheep and Swine*)			3
*Econ. 18–c (*Marketing*)			3
*D. H. 12–c (*Advanced Dairy Cattle Judging*)			2

* Recommended electives.

FORESTRY

Freshman Year

	Fall Term Credits	*Winter Term Credits*	*Spring Term Credits*
Convocation (*Required*)			
Freshman Assembly (*Required Fall Term*)			
Mil. Sci. 1–a, 2–b, 3–c	1½	1½	1½
Phys. Ed. 51–a, 52–b, 53–c	½	½	½
Bot. 1–a, 2–b, 3–c (*Elementary Botany*)	3	3	3
Eng. 1–a, 2–b, 3–c (*English Composition*)	3	3	3
Zoöl. 1–a, 2–b, 3–c (*Principles of Zoölogy*)	4	4	4
For. 3–a (*Dendrology*)	3		
Math. 21–a, 22–b (*Elements of Mathematical Analysis*)	3	3	
For. 4–b (*Wood Identification*)		3	
C. E. 6–c (*Surveying*)			3
For. 5–c (*Forest Improvements*)			3
	18	18	18

Sophomore Year

Convocation (*Required*)			
Mil. Sci. 4–a, 5–b, 6–c	1½	1½	1½
Phys. Ed. 54–a, 55–b, 56–c	½	½	½
Chem. 1–a, 2–b, 3–c (*Inorganic Chemistry*)	4	4	4
Phys. 1–a, 2–b, 3–c (*Introductory Physics*)	3	3	3
For. 9–a, 10–b, 11–c (*Silviculture*)	4	4	4
C. E. 7–a (*Surveying*)	3		
Econ. 1–a, 2–b (*Principles of Economics*)	3	3	
Geol. 101–b (*Elementary Geology*)		3	
Agron. 4–c (*Soils*)			4
M. E. 7–c (*Mechanical Drawing*)			2
	19	19	19

Junior Year

Convocation (*Required*)			
For. 6–a, 7–b, 8–c (*Forest Mensuration*)	3	3	3
For. 26–a (*Silvics*)	4		
Met. 1–a (*Elementary Meteorology*)	3		
Agr'l Chem. 1–a, 2–b (*Agricultural Chemistry*)	5	5	
Ento. 1–a, 13–c (*Economic Entomology & Forest Insects*)	4		3
Bot. 4–b, 5–c (*Plant Physiology*)		4	4
For. 13–b, 14–c (*Forest Utilization*)		3	3
For. 15–b, 17–c (*Thesis*)		3	3
	19	18	16

For. 25–s (*Summer Camp*) ..... 8 credits

Senior Year

For. 22–a, 23–b, 24–c (*Forest Management*)	3	3	3
For. 17–a (*Thesis*)	3		
Bot. 12–a, 13–b (*Plant Pathology*)	3	3	
For. 20–a, 21–b (*National Forest Administration*)	3	3	
Eng. 101–a, 47–c (*Expository Writing*) (*Public Speaking*)	2		3
Agr'l Ec. 3–b (*Rural Economics*)		3	
For. 18–b, 19–c (*History of Forestry*)		3	3
Bot. 18–c (*Systematic Botany*)			2
Electives	2		2
	16	15	13

HORTICULTURE

Junior Year

	Fall Term Credits	*Winter Term Credits*	*Spring Term Credits*
Convocation (*Required*)			
Bot. 12–a, 13–b (*Plant Pathology*)	3	3	
Econ. 1–a, 2–b (*Principles of Economics*)	3	3	
†Ento. 2–a (*Orchard Insects*)	3		
Zoöl. 32–a (*Genetics*)	3		
Agr'l Ec. 3–b (*Rural Economics*)		3	
†Hort. 10–b (*Evolution and Improvement of Plants*)		2	
Hort. 21–c (*Practical Work*)			18
Electives	6	7	
	18	18	18
*Acct. 131–a, 132–b, 133–c (*Elementary Accounting*)	3	3	3
*Agron. 2–a (*Field Crops*)	3		
*Hort. 2–a (*Greenhouse*)	3		
*Hort. 20–a (*Beekeeping*)	2		
*Agr'l Ec. 4–b (*Farm Accounting*)		3	
*Hort. 11–b (*Vegetable Forcing*)		3	
*P. H. 5–b (*Poultry Management*)		3	
*Econ. 3–c (*Principles of Economics*)			3

Senior Year

Hort. 12–a, 12.5–b (*Seminar*)	2	2	
Agr'l Ec. 2–a (*Farm Management*)	4		
Eng. 101–a (*Expository Writing*)	3		
Hort. 5–a (*Fruit and Vegetable Survey*)	2		
‡Hort. 6–b (*Advanced Pomology*)		3	
Bot. 4–b, 5–c (*Plant Physiology*)		4	4
Eng. 47–c (*Public Speaking*)			3
Electives	6	8	8
	17	17	15
*D. H. 3–a, 3.5–b (*Milk Production*)	4	3	
*Agr'l Ec. 1–a (*Coöperative Marketing*)	3		
*Hort. 17–a (*Commerical Vegetable Gardening*)	3		
*Hort. 18–a (*Ornamental Shrubs*)	3		
*Hort. 22–a (*Fruit Judging*)	3		
*Hort. 23–a (*Commercial Pomology*)	3		
*Met. 1–a (*Elementary Meteorology*)	3		
*Agron. 3–b (*Field Crops*)		3	
*Agron. 5–b (*Electric Farm Power*)		4	
*Agron. 6–b (*Fertilizers*)		3	
*Hort. 7–c (*Landscape Gardening*)			4
*Hort. 9–b, 9.5–c (*Floriculture*)		2	2
*A. H. 9–c (*Sheep and Swine*)			3
*Econ. 18–c (*Marketing*)			3
*Hort. 4–c (*Small Fruits*)			3

† Given in alternate years.
* Recommended electives.
‡ Not required if Horticulture 17–a is taken.

POULTRY HUSBANDRY

Junior Year

	Fall Term Credits	*Winter Term Credits*	*Spring Term Credits*
Convocation (*Required*)			
Econ. 1–a, 2–b (*Principles of Economics*)	3	3	
Zoöl. 32–a (*Genetics*)	3		
Agr'l Ec. 3–b (*Rural Economics*)		3	
P. H. 6–b (*Poultry Diseases*)		4	
P. H. 17–b (*Poultry Marketing*)		3	
P. H. 13–c (*Practical Work*)			18
Elective	12	5	
	18	18	18
*Agron. 2–a (*Field Crops*)	3		
*A. H. 3–a (*Feeds and Feeding*)	3		
*A. H. 4–a (*Animal Anatomy*)	3		
*Agron. 3–b (*Cereal Crops*)		3	
*Agr'l Ec. 4–b (*Farm Accounting*)		3	
*Hort. 11–b (*Vegetable Forcing*)		3	
*Zoöl. 40–b (*Embryology*)		4	

Senior Year

P. H. 14–a, 15–b, 16–c (*Poultry Research*)	2–3	2–3	2–3
P. H. 31–a, 32–b, 33–c (*Seminar*)	2	2	2
Agr'l Ec. 2–a (*Farm Management*)	4		
Eng. 101–a (*Expository Writing*)	2		
P. H. 10–a (*Poultry Breeding*)	3		
P. H. 23–a (*Breeds and Judging*)	3		
P. H. 5–b (*Poultry Management*)		3	
P. H. 7–b (*Incubation*)		4	
Econ. 3–c (*Principles of Economics*)			3
Eng. 47–c (*Public Speaking*)			3
P. H. 9–c (*Poultry Feeding*)			4
P. H. 22–c (*Poultry House Construction*)			1
Elective		6	
	16	17	15
*Acct. 131–a, 132–b, 133–c (*Elementary Accounting*)	3	3	3
*Agr'l Chem. 4–a, 5–b (*Physiological Chemistry*)	4	4	
*Agr'l Ec. 1–a (*Coöperative Marketing*)	3		
*For. 27–a (*Farm Woodlot*)	3		
*Met. 1–a (*Elementary Meteorology*)	3		
*Agron. 5–b (*Electric Farm Power*)		4	
*Agron. 6–b (*Fertilizers*)		3	
*Hort. 6–b (*Advanced Pomology*)		3	
*Econ. 18–c (*Marketing*)			3
*Hort. 4–c (*Small Fruits*)			3
*P. H. 12–c (*Brooding*)			1

* Recommended electives.

TEACHER TRAINING

Junior Year

	Fall Term Credits	*Winter Term Credits*	*Spring Term Credits*
Convocation (*Required*)			
Agron. 2–a (*Field Crops*)	3		
A. H. 3–a (*Feeds and Feeding*)	3		
D. H. 3–a (*Milk Production*)	4		
Econ. 1–a, 2–b (*Principles of Economics*)	3	3	
Ed. 34–a (*Applied Psychology*)	3		
Ed. 39–b (*Secondary Education*)		3	
Agr'l Ec. 3–b (*Rural Economics*)		3	
P. H. 11–b (*Poultry for Teachers*)		2	
M. E. 35–a, 36–c (*Farm Carpentry and Metal Work*)	3		3
Agr'l Ec. 4–b (*Farm Accounting*)		3	
D. H. 3.5–b (*Milk Production*)		3	
Econ. 18–c (*Marketing*)			3
Ed. 40–c (*Classroom Methods*)			3
Eng. 47–c (*Public Speaking*)			3
P. H. 9–c (*Poultry Feeding*)			4
P. H. 12–c (*Poultry Brooding*)			1
Ag. Ec. 10–b (*Rural Social Problems*)		2	
	19	19	17
*A. H. 7–a (*Animal Breeding*)	4		
*A. H. 4–a (*Anatomy*)	3		
*Ento. 2–a (*Insects of Garden and Orchard*)	3		
*Acct. 131–a, 132–b, 133–c (*Elementary Accounting*)	3	3	3
*Ed. 38–a (*Secondary Education*)	3		
*Agron. 3–b (*Field Crops*)		3	
*A. H. 5–b, 6–c (*Animal Diseases*)		3	3
*Hort. 4–c (*Small Fruits*)			3
*Hort. 19–c (*Beekeeping*)			2

Senior Year

Agr'l Ec. 1–a (*Coöperative Marketing*)	3		
Agr'l Ec. 2–a (*Farm Management*)	4		
Bot. 12–a (*Plant Pathology*)	3		
†For. 27–a (*Farm Woodlot*)	3		
Ed. 42–a (*History and Principles of Vocational Education*)	3		
Agron. 5–b (*Electric Farm Power*)		4	
Agron. 6–b (*Fertilizers*)		3	
Agron. 13–b (*Farm Shop*)		3	
Bot. 17–b (*Plant Pathology*)		1	
Ed. 32–b (*Psychology of Adolescence*)		3	
Ed. 48–b (*Agriculture in High School*)		3	
Ed. 41–c (*Practice Teaching*)			18
	16	17	18
*Met. 1–a (*Elementary Meteorology*)	3		
*Hort. 6–b (*Advanced Pomology*)		3	
*Ed. 43–b (*Mental Hygiene*)		3	

* Recommended electives.
† Given in alternate years.

COLLEGE OF LIBERAL ARTS

C. Floyd Jackson, *Dean*

DEPARTMENTS

Economics and Accounting
Education
English
Geology
History
Home Economics
Languages
Music
Philosophy and Psychology
Physical Education for Women
Political Science
Sociology
Zoölogy

In the College of Liberal Arts the following curricula are offered:

General Liberal Arts Curriculum.—This curriculum provides a general college training which especially prepares for citizenship, secondary school teaching, business, or graduate study. By means of the group system of elective studies an opportunity is given the student to secure an A.B. or B.S. degree.

Education—Professional Education Curriculum.—Students preparing to teach in secondary schools may take the curriculum in professional education. The regulations of the New Hampshire State Board of Education provide that college graduates or other students with four years of post-secondary education will be given secondary licenses provided that their curricula included 12 semester hours of college work in Education. Education as stated here includes courses in education, psychology, special methods, and educational sociology. It is recommended to the students of the University of New Hampshire that they plan their curricula so as to meet these requirements which are indicative of what other states are specifying for certification to teach.

Students transferring from State Normal Schools who meet the Liberal Arts requirements will be given 89 credits for the two-year normal course and 126 credits for the three-year course. Graduates of the Professional Education Curriculum will be entitled to a license to teach in New Hampshire secondary schools. After one year of successful teaching experience they will be entitled to a permanent certificate.

Home Economics Curriculum.—The curricula in home economics are planned to meet the demands for scientific training in home making. Special curricula are outlined for students who wish to enter fields of

professional activity along educational and institutional lines of work and other courses are offered as electives for students in the Liberal Arts curricula who wish to study one or more phases of home making.

The technical work in household science is based upon the principles of physical, biological and social sciences. The courses in foods, nutrition and dietetics require physics, chemistry and physiology; those in sanitation necessitate a knowledge of chemistry and bacteriology; home administration and the care and education of children demand a knowledge of the principles of human nutrition and dietetics, and of the principles of economics, psychology and sociology. The study of color and design are fundamental to the work in costume design and house decoration.

The home economics curricula offered are as follows:

(1) Teacher Training Curriculum. To prepare students to teach home economics in junior and senior high schools.

(2) Institutional Management Curriculum. To train students for positions as dietitians and managers, or assistant dietitians or assistant managers in public institutions such as college dormitories, hospitals, tea rooms, cafeterias, etc.

(3) Extension Training Curriculum. To train students to become home demonstration agents and boys' and girls' club agents.

(4) General Arts Major in Home Economics. (Students wishing to take the General Arts Major in Home Economics should make out their schedules with the head of the department.)

(5) Special Elective Unit Courses. (Students wishing to take elective courses should consult the department head before registering for them.)

General Business Curriculum.—Students wishing to prepare for a business career should take the curriculum in general business. This curriculum has been planned so as to offer the foundation for a broad cultural education during the first and second years of the curriculum, and then to introduce the student to the more general business courses in the junior and senior years.

Pre-Medical Curriculum.—This curriculum is offered to meet the needs of students who are preparing for the medical profession.

It is highly desirable that a student should spend four years at this institution in preparation for a medical training, although some medical colleges do not require a degree for entrance. The four years of pre-medical work will, however, give the student a good cultural foundation for his future medical work.

Students following the prescribed pre-medical curriculum will be eligible for entrance into any Class A medical school. However, owing to the crowded condition of most medical schools, only those students standing in the upper third of their class during their pre-medical work may be admitted. Some medical institutions restrict the number of students from any pre-medical school, in which case preference is always given to those students having the most complete training and highest standing in their pre-medical work.

Pre-Law Curriculum.—This curriculum is planned to meet the needs of students who are looking towards law as a profession.

COLLEGE OF LIBERAL ARTS

GENERAL LIBERAL ARTS CURRICULUM

Freshman Year**

	Fall Term Credits	Winter Term Credits	Spring Term Credits
Convocation (*Required*)			
Freshman Assembly (*Required Fall Term*)			
*Mil. Sci. 1–a, 2–b, 3–c	1½	1½	1½
*Phys. Ed. 51–a, 52–b, 53–c	½	½	½
English 1–a, 2–b, 3–c (*Composition*)	3	3	3
Elect one subject from each of the three groups, I, II, III:			
Group I. †Math. 101–a, 102–b, 103–c, 1–a, 2–b, 3–c	3	3	3
Hist. 4–a, 5–b, 6–c	3	3	3
‡Lang. 1–a, 2–b, 3–c (*French, German, Latin, Spanish*)	3	3	3
Group II. Bot. 1–a, 2–b, 3–c	4	4	4
Chem. 1–a, 2–b, 3–c	4	4	4
Geol. 1–a, 2–b, 3–c	4	4	4
Physics 1–a, 2–b, 3–c	4	4	4
Zoöl. 1–a, 2–b, 3–c	4	4	4
Group III. Cont. Civil. 1–a, 2–b, 3–c	3	3	3
Electives to meet term requirements	3	3	3
	18	18	18

Sophomore Year

Convocation (*Required*)			
‖Mil. Sci. 4–a, 5–b, 6–c	1½	1½	1½
‖Phys. Ed. 54–a, 55–b, 56–c	½	½	½
§Eng. –a, –b, –c	3	3	3
Elect one of the following subjects from each of the three groups, I, II, III:			
Group I. †Math. (*One year*)	3	3	3
Hist. (*One year*)	3	3	3
Lang. (*French, German, Latin, Spanish*) (*one year*)	3	3	3
Eng. (*A third year of English*)	3	3	3
Group II. Bot. (*One year*)	4	4	4
Chem. (*One year*)	4	4	4
Geol. (*One year*)	4	4	4
Phys. (*One year*)	4	4	4
Zoöl. (*One year*)	4	4	4
Group III. Econ. (*One year*)	3	3	3
Ed. (*One year*)	3	3	3
Pol. Sci. (*One year*)	3	3	3
Psy. (*One year*)	3	3	3
Phil. (*One year*)	3	3	3
Soc. (*One year*)	3	3	3
Electives	3	3	3
	18	18	18

** See page 67 for year-course requirements.

* Physical Education 1–a, 2–b, 3–c is required of all Freshmen women.

† Open only to students with one year each of Algebra and Plane Geometry.

‡ Freshmen will be assigned to French courses on the basis of their grades in the French Placement Examination given during Freshman Week.

Students who have had two years of German or Spanish in High School should enroll for German 4–a, 5–b, 6–c or Spanish 4–a, 5–b, 6–c. For Latin 1–a, 2–b, 3–c, the prerequisite is at least three years of High School Latin.

‖ Physical Education 4–a, 5–b, 6–c is required of women students instead of Military Science and Physical Education 54–a, 55–b, 56–c.

§ A second year's work in English is required but may be taken during Sophomore, Junior or Senior year.

HOME ECONOMICS CURRICULA

I. Vocational Curricula:
   A. Teacher Training Curriculum
   B. Institutional Management Curriculum
   C. Extension Training Curriculum
II. General Arts Major in Home Economics
III. Elective unit courses for all students.

FRESHMAN YEAR**

	Fall Term Credits	*Winter Term Credits*	*Spring Term Credits*
Convocation (*Required*)			
Freshman Assembly (*Required Fall Term*)			
Phys. Ed. 1–a, 2–b, 3–c	½	½	½
†Eng. 1–a, 2–b, 3–c (*Composition*)	3	3	3
Cont. Civil. 1–a, 2–b, 3–c	3	3	3
One course from Group I, General Lib. Arts Curriculum Freshman Year	3	3	3
H. E. 20–a, 21–b, 22–c (*Clothing Selection*)	3	3	3
H. E. 100–a, 101–b, 102–c (*Vocational Opportunities*)	1	1	1
Zoöl. 1–a, 2–b, 3–c (*Principles of Zoölogy*)	4	4	4
Electives to meet term requirements			
	17½	17½	17½

SOPHOMORE YEAR

Convocation (*Required*)			
Phys. Ed. 4–a, 5–b, 6–c	½	½	½
Phys. 33–a, 34–b, 35–c (*Household Physics*)	3	3	3
Chem. 1–a, 2–b, 3–c (*Inorganic Chemistry*)	4	4	4
H. E. 52–a, 53–b, 54–c (*Food and Cookery*)	3	3	3
H. E. 84–c (*Home Furnishing*)			3
Arch. 20–a, 21–b (*Domestic Architecture*)	2	2	
Econ. 1–a, 2–b (*Principles of Economics*)	3	3	
H. E. 82–c (*Home Management*)			2
Electives	2½	2½	2½
	18	18	18

JUNIOR YEAR

Convocation (*Required*)			
Phys. Ed. 7–a, 8–b, 9–c	½	½	½
Ag. Chem. 23–a, 24–b (*Household Phys.—Foods*)	5	5	
H. E. 60–c (*Dietetics*)			3
Bot. 8–a, 8.5–b, 9–c (*Bacteriology*)	4	4	4
Ed. 31–a, 32–b, 33–c (*Psychology*)	3	3	3
H. E. 71–a, b, c (*Child Development*)	3 or	3 or	3
H. E. 72–c (*The Family and the Child*)			3
*H. E. 1–c (*Textiles*)			1
°Educ. 39–b (*Secondary Education*)		3	
Electives	3	3	3
	18½	18½	17½

** See page 67 for year-course requirements.
† One additional year of English must be elected before graduation.
* Required of Teacher Training and Extension majors only.
° Required of Teacher Training majors only.

UNIVERSITY OF NEW HAMPSHIRE

TEACHER TRAINING CURRICULUM

SENIOR YEAR

	Fall Term Credits	*Winter Term Credits*	*Spring Term Credits*
Ed. 40-c (*Classroom Methods*)			3
Ed. 42–a (*History and Principles of Vocational Education*)	3		
H. E. 88–a or c (*Home Management House*)	4		4
H. E. 106–a, 108–c (*Home Economics Education*)	4		4
H. E. 107–b (*Home Economics Teaching*)		18	
H. E. 83–a (*Home Care of the Sick*)	2		
Electives	9		7
	18	18	18

INSTITUTIONAL MANAGEMENT CURRICULUM

SENIOR YEAR

	Fall Term Credits	*Winter Term Credits*	*Spring Term Credits*
Zoöl. 13–a, 14–b, 15–c (*Hygiene and Sanitation*)	3	3	3
Acct. 112–a, 113–b (*Accounting*)	4	4	
H. E. 91–a, 92–b (*Institutional Management*)	2	2	
H. E. 94–a, 95–b (*Institutional Practice*)	2	2	
H. E. 83–a (*Home Care of the Sick*)	2		
H. E. 61–a (*Nutrition*)	2		
H. E. 88–a or –b or –c (*Home Management House*)	4 or	4 or	4
Electives	3	7	11
	18	18	18

EXTENSION TRAINING CURRICULUM

SENIOR YEAR

	Fall Term Credits	*Winter Term Credits*	*Spring Term Credits*
Zoöl. 13–a, 14–b (*Hygiene and Sanitation*)	3	3	
Agri. 2–b (*Extension Organization and Methods*)		3	
Agri. 3–c (*Supervised Extension Work*)			18
Ag. Ec. 10–b (*Rural Social Problems*)		2	
H. E. 88–a or –b (*Home Management House*)	4 or	4	
H. E. 106–a (*Home Economics Education*)	4		
D. H. 8–a (*Domestic Dairying*)	3		
H. E. 83–a (*Home Care of the Sick*)	2		
Electives	2	10	
	18	18	18

NOTE 1. General Arts Major students and others wishing to elect work in Home Economics should arrange their schedules with the head of the department.

GENERAL BUSINESS CURRICULUM

Freshman Year§

	Fall Term Credits	*Winter Term Credits*	*Spring Term Credits*
Convocation (*Required*)			
Freshman Assembly (*Required Fall Term*)			
Mil. Sci. 1–a, 2–b, 3–c	1½	1½	1½
Phys. Ed. 51–a, 52–b, 53–c	½	½	½
Eng. 1–a, 2–b, 3–c (*Composition*)	3	3	3
Math. 101–a, 102–b, 103–c (*Mathematics*)	3	3	3
Hist. 65–a, 66–b, 67–c (*Modern European History*)	3	3	3
A Science (*Botany, Chemistry, Physics, Zoölogy, Geology*)	4	4	4
*A foreign language or an approved elective	3	3	3
	18	18	18

Sophomore Year

Convocation (*Required*)			
Mil. Sci. 4–a, 5–b, 6–c	1½	1½	1½
Phys. Ed. 54–a, 55–b, 56–c	½	½	½
Acct. 112–a, 113–b, 114–c (*Accounting*)	4	4	4
Econ. 1–a, 2–b, 3–c (*Principles of Economics*)	3	3	3
Econ. 6–a (*Economic and Commercial Geography*)	3		
Econ. 7–b, 8–c (*Economic and Commercial History*)		3	3
†Math. 110–a, 111–b, 112–c (*Statistics*)	3	3	
†Math. 104–c (*Mathematics*)			3
Eng. ** –a, –b, –c	3	3	3
	18	18	18

Junior Year

Convocation (*Required*)			
Econ. 71–a, 72–b, 73–c (*Commercial Law*)	3	3	3
Econ. 13–a, 14–b, 15–c (*Money and Banking*)	3	3	3
Econ. 18–c (*Marketing*)			3
Econ. 22–a (*Corporations*)	3		
Econ. 23–b (*Corporation Finance*)		3	
Econ. 24–c (*Public Regulation*)			3
Acct. 115–a, 116–b, 117–c	4	4	4
Electives	5	5	2
	18	18	18

Senior Year

Econ. 10–a (*Labor Problems*)	4		
Electives	14	18	18
	18	18	18

§ See page 67 for year-course requirements.
* Not a beginning foreign language.
† Preferred electives.
** A second year of English.

PRE-MEDICAL CURRICULUM

Freshman Year*

	Fall Term Credits	*Winter Term Credits*	*Spring Term Credits*
Convocation (*Required*)			
Freshman Assembly (*Required Fall Term*)			
Mil. Sci. 1–a, 2–b, 3–c	1½	1½	1½
Phys. Ed. 51–a, 52–b, 53–c	½	½	½
Chem. 1–a, 2–b, 3–c (*Inorganic Chemistry*)	4	4	4
Eng. 1–a, 2–b, 3–c (*Composition*)	3	3	3
French 4–a, 5–b, 6–c (*French Prose*) or	3	3	3
German 1–a, 2–b, 3–c (*Elementary German*)	3	3	3
Zoöl. 1–a, 2–b, 3–c (*Principles of Zoölogy*)	4	4	4
Electives	2	2	2
	18	18	18

Sophomore Year

Convocation (*Required*)			
Mil. Sci. 4–a, 5–b, 6–c	1½	1½	1½
Phys. Ed. 54–a, 55–b, 56–c	½	½	½
Chem. 25–a, 26–b, 27–c (*Introductory Qualitative and Quantitative Analysis*)	3	3	3
Eng. –a, –b, –c	3	3	3
Zoöl. 45–a, 46–b, 47–c (*Comparative Anatomy*)	4	4	4
Electives	6	6	6
	18	18	18

Junior Year

Convocation (*Required*)			
Chem. 46–a, 47–b, 48–c (*Organic Chemistry*)	3	3	3
Chem. 49–a, 50–b, 51–c (*Organic Laboratory*)	2	2	2
Phys. 17–a, 18–b, 19–c (*Pre-Medical Physics*)	5	5	5
Zoöl. 48–a, 49–b, 50–c (*Cytology and Genetics*) or	4	4	4
Zoöl. 36–a, 37–b, 38c (*Histology*)	4	4	4
Electives	4	4	4
	18	18	18

Senior Year

Agr'l Chem. 4–a, 5–b, 21–c (*Physiological Chem.*)	5	5	5
Zoöl. 39–a, 40–b, 41–c (*Embryology*) or	4	4	4
Zoöl. 42–a, 43–b, 44–c (*Physiology*)	4	4	4
Electives	9	9	9
	18	18	18

*See page 67 for year-course requirements.

PROFESSIONAL EDUCATION

Freshman Year**

	Fall Term Credits	*Winter Term Credits*	*Spring Term Credits*
Convocation (*Required*)			
Freshman Assembly (*Required Fall Term*)			
*Mil. Sci. 1–a, 2–b, 3–c	1½	1½	1½
†Phys. Ed. 51–a, 52–b, 53–c	½	½	½
Cont. Civil. 1–a, 2–b, 3–c	3	3	3
Ed. 11–a (*Effective Methods of Study*)	2		
Eng. 1–a, 2–b, 3–c (*Composition*)	3	3	3
His. 4–a, 5–b, 6–c (*Introduction to History*)	3	3	3
Language, or Mathematics	3	3	3
Elect one: Botany, Chemistry, Physics, Zoölogy	4	4	4
Electives	1	3	3
	18	18	18

Sophomore Year

Convocation (*Required*)			
*Mil. Sci. 4–a, 5–b, 6–c	1½	1½	1½
‡Phys. Ed. 54–a, 55–b, 56–c	½	½	½
Ed. 21–a, 22–b, 23–c (*Elements of Education*)	3	3	3
Eng. 4–a, 5–b, 6–c or 47–a, 48–b, 49–c	3	3	3
Psy. 21–a, 22–b, 23–c (*Elementary Psychology*)	3	3	3
Lang. 1–a, 2–b, 3–c or Math. 1–a, 2–b, 3–c or 21–a, 22–b, 25–c or Hist. 29–a, 30–b, 31–c	3	3	3
Group II elective	4	4	4
	18	18	18

Junior Year

Convocation (*Required*)			
Ed. 31–a, 32–b, 33–c or 34–a, 32–b, 30–c	3	3	3
Ed. 38–a, 39–b, 40–c	3	3	3
Ed. 40.4–a, 40.7–b or Math. 16–a, 17–b, 18–c or M. E. 14–b	3	3	3
Elect two courses in subjects to be taught	6	6	6
Electives	3	3	3
	18	18	18

Senior Year

Ed. 41–a or b or c	18	18	18
Ed. 44–b or c		3	3
Elect two courses in subjects to be taught	6	6	6
Electives			
	18	18	18

** See page 67 for year-course requirements.
* Men only.
† Phys. Ed. 1–a, 2–b, 3–c for women.
‡ Phys. Ed. 4–a, 5–b, 3–c for women.

PRE-LAW CURRICULUM

Freshman Year**

	Fall Term Credits	*Winter Term Credits*	*Spring Term Credits*
Convocation (*Required*)			
Freshman Assembly (*Required Fall Term*)			
Mil. Sci. 1–a, 2–b, 3–c	1½	1½	1½
Phys. Ed. 51–a, 52–b, 53–c	½	½	½
Eng. 1–a, 2–b, 3–c (*Composition*)	3	3	3
*Language—Fr. or Ger. 1–a, 2–b, 3–c	3	3	3
†Science: Zoöl. 1–a, 2–b, 3–c Chem. 1–a, 2–b, 3–c, Bot. 1–a, 2–b, 3–c Math. 101–a, 102–b, 103–c, Geol. 1–a, 2–b, 3–c	4	4	4
Cont. Civil. 1–a, 2–b, 3–c	3	3	3
Electives	3	3	3
	18	18	18

Sophomore Year

Convocation (*Required*)			
Mil. Sci. 4–a, 5–b, 6–c	1½	1½	1½
Phys. Ed. 54–a, 55–b, 56–c	½	½	½
Eng. –a, –b, –c	3	3	3
Pol. Sci. 25–a, 26–b, 27–c (*Citizenship*)	3	3	3
Pol. Sci. 28–a, 29–b, 30–c (*American Government*)	3	3	3
*Language—Fr. or Ger. 4–a, 5–b, 6–c	3	3	3
Science: Zoölogy, Chemistry, Botany, Mathematics, Geology	4	4	4
	18	18	18

Junior Year

Convocation (*Required*)			
Hist. 25–a, 26–b, 27–c (*United States History in the Nineteenth Century*)	3	3	3
Pol. Sci. 53–a, 54–b, 55–c (*International Law*)	3	3	3
Electives	12	12	12
	18	18	18

Senior Year

Pol. Sci. 56–a, 57–b, 58–c (*Constitutional Law and Jurisprudence*)	3	3	3
Pol. Sci. 81–a, 82–b, 83–c (*Seminar*)	1–4	1–4	1–4
Electives	14–11	14–11	14–11
	18	18	18

** See page 67 for year-course requirements.

* If the equivalent of 4–a, 5–b, 6–c has been taken, the language requirement will be considered as fulfilled and a subject from Group I should be elected in its place.

† Any science courses which meet the requirements in Liberal Arts.

COLLEGE OF TECHNOLOGY

GEORGE W. CASE, *Dean*

DEPARTMENTS

ARCHITECTURE
CHEMISTRY
CIVIL ENGINEERING
ELECTRICAL ENGINEERING
MATHEMATICS
MECHANICAL ENGINEERING
PHYSICS
ENGINEERING EXPERIMENT STATION

The College of Technology offers the following four-year curricula:

Architecture Curriculum.—This curriculum is planned to prepare its graduates for immediate usefulness in the profession of architecture and, while it is highly technical, it does not overlook the need of the professional man for a broad cultural background.

The work in design in the sophomore and junior years is based on the programs issued by the Beaux Arts Institute of Design in New York City. This plan insures the maintenance of high scholarship, since the student's work is competitive not only with that of the other students in the department, but also with the work of students in other schools of architecture in the country.

Chemistry Curriculum.—This curriculum is intended to fit the student for the career of a professional chemist, and to give a good foundation for original and independent chemical research.

Instruction is imparted by lectures, recitations and a large amount of carefully supervised laboratory work. The laboratory study is largely an individual one, and the work of each student is conducted with reference not only to the particular object he may have in view, but also to the acquirement of a broad knowledge of chemical science. The student is given a thorough training in either German or French to enable him to read with ease the chemical literature; a thorough grounding in mathematics, necessary for advanced theoretical chemistry or chemical engineering; a somewhat limited amount of special work in both mechanical and electrical engineering and a thorough undergraduate training in theoretical and applied chemistry. He is encouraged to develop the power of solving chemical problems by independent thought through the aid of the reference library and chemical periodicals.

Civil Engineering Curriculum.—This curriculum is designed to give the student the groundwork of the broad field of civil engineering.

About equal emphasis is placed upon highway, hydraulic, sanitary and structural engineering. The junior year contains four terms: fall, winter, spring and summer. The first three terms of the junior year are devoted to regular class work. The summer term of the junior year is for actual employment in surveying or construction work. The student is under the general supervision of a member of the Faculty during this period of employment. This work, including a report, is required for graduation.

Electrical Engineering Curriculum.—The electrical engineering curriculum is intended to meet the demands of young men fitting themselves for professional engineering in connection with the various applications of electricity.

By means of lectures, recitations and laboratory work, the courses of the curriculum are brought to the attention of the student in such a manner as not only to emphasize the present needs of the practitioner and engineer, but to give him the principles needed to understand the constantly increasing number of new problems that require solution.

Mechanical Engineering Curriculum.—The mechanical engineering curriculum is intended to train young men for positions of responsibility in the field of the mechanical industries and designed to fit them socially for their proper place in the world. The courses in the curriculum are scientific, including mathematics, physics and chemistry; technical, including drawing, shop work, thermodynamics, hydraulics, machine design, electrical engineering, power engineering; and cultural, including English, history and psychology.

Instruction is given by means of recitations, lectures and laboratory work supplemented by illustrated lectures and assigned reading. Throughout the curriculum the theoretical work is supplemented by actual practice in mechanical operation and scientific research, by training in the use of tools for working wood and metals, and by experimental tests and demonstrations in the mechanical, electrical, chemical and physical laboratories.

Engineering Experiment Station.—The Engineering Experiment Station is for the purpose of making available the advisory assistance of heads of departments and experienced men in the faculties of departments of the College of Technology, and the use of laboratory facilities of these departments for the service and assistance of New Hampshire industries and the people of New Hampshire in solving their technical problems.

Alumni Representation.—An Advisory Committee of Alumni of the College of Technology, composed of men in direct contact with industry and practical professional affairs, serves to keep the Faculty in touch with developments in the several fields which attract our graduates. Members of this committee also serve as consultants when important changes in curricula, faculty personnel and policies of administration are considered. The members are:

Henry H. Calderwood, B.S. in E.E., '01, 16 Prospect Street, Saugus, Mass.
John T. Croghan, B.S. in M.E., '08, 574 Chestnut Street, Waban, Mass.
Robert A. Neal, B.S. in E.E., '10, 286 Burlington Road, Wilkinsburg, Pa.
Lester A. Pratt, Ph.D., '09, 13 Wildwood Street, Winchester, Mass.

Concerns Furnishing Summer Work for Technology Students

Acme Knitting Machine & Needle Co., Franklin, N. H.
Amoskeag Manufacturing Company, Manchester, N. H.
Boston and Maine Railroad, Billerica, Mass.
Brown Company, Berlin, N. H.
Coleman Brothers, Boston, Mass.
Ford Motor Company, Boston, Mass.
Kidder Press Company, Dover, N. H.
Nashua Manufacturing Company, Nashua, N. H.
New England Power Association, Boston, Mass.
New Hampshire Gas and Electric Company, Portsmouth, N. H.
New York, New Haven & Hartford R. R. Co., Readville, Mass., and Van Ness, N. Y.
Parker Young Company, Lincoln, N. H.
State Highway Department, Concord, N. H.
B. F. Sturtevant Company, Hyde Park, Mass.
Sullivan Machinery Company, Claremont, N. H.
U. S. Geological Survey, Washington, D. C.
Walworth Manufacturing Company, Boston, Mass.
Western Electric Company, Kearny, N. J.
The Delaware and Hudson Company, Albany, N. Y.

COLLEGE OF TECHNOLOGY

ARCHITECTURE

Freshman Year

	Fall Term Credits	*Winter Term Credits*	*Spring Term Credits*
Convocation (*Required*)			
Freshman Assembly (*Required Fall Term*)			
Phys. Ed. 51–a, 52–b, 53–c	½	½	½
Mil. Sci. 18–a, 19–b, 20–c	1½	1½	1½
Math. 1–a, 2–b, 3–c (*First Year Mathematics*)	5	5	5
Chem. 1–a (*Inorganic Chemistry*)	4		
Eng. 1–a, 2–b, 3–c (*Composition*)	3	3	3
M. E. 1–a, 2–b, 3–c (*Engineering Drawing*)	2	2	2
M. E. 10–a, or 16–a (*Wood Shop or Forge*)	3		
Arch. 11–b, 12–c (*Elements of Architecture*)		2	2
Arch. 2–b, 3–c (*Elements of Design*)		2	2
Arch. 108–b, 109–c (*Freehand Drawing*)		2	2
	19	18	18

Sophomore Year

Convocation (*Required*)			
Phys. Ed. 54–a, 55–b, 56–c	½	½	½
Mil. Sci. 21–a, 22–b, 23–c	1½	1½	1½
Arch. 110–a, 111–b, 112–c (*Freehand Drawing*)	2	2	2
Arch. 4–a, 5–b, 6–c (*History of Architecture*)	2	2	2
Arch. 50–a, 51–b, 52–c (*Architectural Design*)	6	6	6
Hort. 24–b (*Landscape Gardening*)		3	
Phys. 27–a, 28–b, 29–c (*Physics*)	4	4	4
Geol. 100–a (*Clay Products and Building Stones*)	2		
M. E. 12–c (*Wood Shop*)			3
	18	19	19

Junior Year

Convocation (*Required*)			
C. E. 70–a, 71–b, 72–c (*Building Construction*)	3	3	3
Arch. 53–a, 54–b, 55–c (*Architectural Design*)	6	6	6
Arch. 113–a, 114–b, 115–c (*Color, Modeling*)	4	2	2
E. E. 100–c (*Elements of Electricity*)			3
M. E. 79–b (*Heating and Ventilating*)		3	
M. E. 49–a, 50–b, 51–c (*Mechanics*)	3	3	3
Elective	3	3	3
	19	20	20

Senior Year

C. E. 73–a, 74–b, 75–c (*Building Construction*)	3	3	3
Arch. 60–a, 61–b, 62–c (*Architectural Thesis*)	6	6	6
Arch. 23–a (*Domestic Architecture*)	2		
C. E. 76–b (*Building Sanitation*)		1	
Arch. 41–b, 42–c (*Professional Practice*)		2	2
Acct. 131–a, 132–b, 133–c (*Accounting and Bookkeeping*)	3	3	3
†Econ. 104–a (*Economic History of the Working Classes*)	3		
†Econ. 105–b (*Law of Contracts*)		3	
†Econ. 106–c (*Business Organization and Finance*)			3
Elective	3	3	3
	20	21	20

† Students electing Mil. Sci. 27–a, 28–b, 29–c are not required to register for Econ. 104–a, 105–b, 106–c.

TECHNOLOGY CURRICULUM IN CHEMISTRY

Freshman Year

	Fall Term Credits	*Winter Term Credits*	*Spring Term Credits*
Convocation (*Required*)			
Freshman Assembly (*Required Fall Term*)			
Phys. Ed. 51–a, 52–b, 53–c	½	½	½
Mil. Sci. 18–a, 19–b, 20–c	1½	1½	1½
Eng. 1–a, 2–b, 3–c (*Composition*)	3	3	3
Math. 1–a, 2–b, 3–c (*First Year Mathematics*)	5	5	5
Chem. 1–a, 4–b, 5–c (*Inorganic Chemistry*)	4	5	5
M. E. 1–a, 2–b (*Engineering Drawing*)	2	2	
M. E. 10–a or 16–a (*Wood or Forge Shop*)	3		
Geol. 101–c (*General Geology*)			3
	19	17	18

Sophomore Year

Convocation (*Required*)			
Phys. Ed. 54–a, 55–b, 56–c	½	½	½
Mil. Sci. 21–a, 22–b, 23–c	1½	1½	1½
Chem. 22–a, 23–b, 24–c (*Analytical Chemistry*)	4	4	4
Math. 7–a, 8–b, 9–c (*Calculus*)	3	3	3
Physics 6–a, 7–b, 8–c (*General Physics*)	4	4	4
Physics 9–a, 10–b, 11–c (*Physics Laboratory*)	3	3	3
Ger. 1–a, 2–b, 3–c (*German*)	3	3	3
	19	19	19

Junior Year

Chem. 40–a, 41–b, 42–c (*Organic Chemistry*)	5	5	5
Chem. 30–a, 31–b, 32–c (*Quantitative Analysis*)	5	5	5
E. E. 15–a, 16–b (*Electrical Engineering*)	3	3	
Physics 37–c (*Electrical Measurements*)			3
Chem. 100–a, 101–b (*Inorganic Chemistry*)	3	3	
Chem. 160–c (*Physical Chemistry*)			3
Ger. 4.5–a, 5.5–b, 6.5–c (*German*) or M. E. 46–a, 47–b, 48–c (*Mechanics*) or Econ. 104–a, 105–b, 106–c (*Economics*) or Mil. Sci. 24–a, 25–b, 26–c (*Coast Artillery*) or Approved Elective	3	3	3
	19	19	19

Senior Year

Chem. 161–a, 162–b, 163–c (*Physical Chemistry*)	5	5	5
Chem. 110–a, 111–b, 112–c (*Industrial Chemistry*)	3	3	3
Chem. 80–a, 81–b, 82–c (*Thesis, Bibliography and Seminar*)	7	7	7
Geol. 50–a (*Mineralogy*) or Bot. 8–b (*Bacteriology*) Chem. 43–c (*Qualitative Organic Analysis* Mil. Sci. 27–a, 28–b, 29–c (*Coast Artillery*) or Approved Elective	3	3	3
	18	18	18

CIVIL, ELECTRICAL AND MECHANICAL ENGINEERING

Freshman Year

	Fall Term Credits	*Winter Term Credits*	*Spring Term Credits*
Convocation (*Required*)			
Freshman Assembly (*Required Fall Term*)			
Phys. Ed. 51–a, 52–b, 53–c	½	½	½
Mil. Sci. 18–a, 19–b, 20–c	1½	1½	1½
Math. 1–a, 2–b, 3–c (*First Year Mathematics*)	5	5	5
Chem. 1–a, 2–b, 3–c (*Inorganic Chemistry*)	4	4	4
Eng. 1–a, 2–b, 3–c (*Composition*)	3	3	3
M. E. 1–a, 2–b, 3–c (*Engineering Drawing*)	2	2	2
M. E. 10–a or 16–a (*Wood or Forge Work*)	3		
M. E. 10–b or 16–b (*Wood or Forge Work*)		3	
C. E. 1–c (*Surveying*)			3
	19	19	19

Civil Engineering

Sophomore Year

Convocation (*Required*)			
Phys. Ed. 54–a, 55–b, 56–c	½	½	½
Mil. Sci. 21–a, 22–b, 23–c	1½	1½	1½
C. E. 2–a (*Topographic Surveying*)	3		
C. E. 3–b (*Topographic Drawing*)		3	
C. E. 8–b (*Engineering Astronomy*)		3	
C. E. 4–c (*Railroad Curves*)			3
C. E. 20–c (*Highway Location*)			3
Math. 7–a, 8–b, 9–c (*Calculus*)	3	3	3
Phys. 6–a, 7–b, 8–c (*Physics*)	4	4	4
Phys. 9–a, 10–b, 11–c (*Physics Laboratory*)	3	3	3
M. E. 30–a (*Machine Work*)	2		
	17	18	18

Junior Year

Convocation (*Required*)			
C. E. 21–a (*Highway Location*)	2		
C. E. 22–a (*Materials*)	2		
C. E. 41–b, 42–c (*Hydraulics*)		3	4
C. E. 80–a, 81–b, 82–c (*A. S. C. E.*) (*Required*)			
C. E. 60–a, 61–b, 62–c (*Stresses*)	4	4	4
E. E. 34–a, 35–b, 36–c (*Electrical Machinery*)	3	3	3
M. E. 43–a, 44–b, 45–c (*Applied Mechanics*)	3	3	3
M. E. 52–a, 53–c (*Testing Materials Laboratories*)	1		2
Geol. 101–b (*General Geology*)		3	
Mil. Sci. 24–a, 25–b, 26–c (*Military Science*) or M. E. 92–a, 93–b, 94–c (*Management*)	3	3	3
	18	19	19

Senior Year

	Fall Term Credits	Winter Term Credits	Spring Term Credits
C. E. 23–a, 24–b (*Highway Engineering and Transportation*)	4	4	
C. E. 25–c (*Railway Engineering*)			4
C. E. 50–a, 51–b, 52–c (*Hydraulic and Sanitary Engineering*)	4	4	4
C. E. 63–a, 64–b, 65–c (*Structural Design*)	4	4	4
C. E. 83–a, 84–b, 85–c (*A. S. C. E.*) (*Required*)			
C. E. 87–a (*Seminar*) (*Required*)			
Eng. 101–a (*Expository Writing*)	2		
C. E. 90–b, 91–c (*Thesis*)		2	2
M. E. 61–a, 62–b, 63–c (*Heat Power Engineering*)	2	2	2
Mil. Sci. 27–a (*Coast Artillery*) or Econ. 104–a (*Economic History of Working Classes*)	3		
Mil. Sci. 28–b (*Coast Artillery*) or Econ. 105–b (*Law of Contracts*)		3	
Mil. Sci. 29–c (*Coast Artillery*) or Econ. 106–c (*Business Organization and Finance*)			3
	19	19	19

Electrical Engineering

Sophomore Year

	Fall Term Credits	Winter Term Credits	Spring Term Credits
Convocation (*Required*)			
Phys. Ed. 54–a, 55–b, 56–c	½	½	½
Mil. Sci. 21–a, 22–b, 23–c	1½	1½	1½
Math. 7–a, 8–b, 9–c (*Calculus*)	3	3	3
Phys. 6–a, 7–b, 8–c (*Physics*)	4	4	4
Phys. 9–a, 10–b, 11–c (*Physics Laboratory*)	3	3	3
E. E. 31–a, 32–b, 33–c (*Electrical Laboratory*)	1	1½	2
*Math. 121–c (*Astronomy*)			1½
M. E. 56–c (*Kinematics*)			3
M. E. 4–a, 5–b (*Machine Drawing*)	2	2	
M. E. 20–a, 21–b (*Machine Shop*)	3	3	
	18	18½	18½

Junior Year

Convocation (*Required*)			
E. E. 37–a, 38–b, 39–c (*Electrical Problems*)	2	2	2
E. E. 1–a, 2–b, 3–c (*Dynamo Electric Machinery*)	3	3	3
E. E. 28–a, 29–b, 30–c (*Electrical Laboratory*)	2	2	2
M. E. 43–a, 44–b, 45–c (*Mechanics*)	3	3	3
M. E. 64–a, 65–b (*Thermodynamics*)	3	3	
M. E. 68–a, 69–b, 53–c (*Mechanical Laboratory*)	2	2	2
M. E. 94–c (*Engineering Economics*)			3
E. E. 41–a, 42–b, 43–c (*A. I. E. E.*) (*Required*)			
Econ. 104–a (*Economic History of the Working Classes*)	3		
Econ. 105–b (*Law of Contracts*)		3	
Econ. 106–c (*Business Organization and Finance*)			3
§Mil. Sci. 24–a, 25–b, 26–c (*Coast Artillery*)			
	18	18	18

* Elective.

§ Students enrolling in Mil. Sci. 24–a, 25–b, 26–c are not required to enroll in Econ. 104–a, 105–b, 106–c.

SENIOR YEAR

	Fall Term Credits	Winter Term Credits	Spring Term Credits
E. E. 7–a, 8–b, 9–c (*Electrical Engineering Practice*)	3	3	3
*E. E. 11–a, 12–b, 13–c (*Electrical Laboratory*)	4	4	5
E. E. 19–b (*Illumination Engineering*)		2	
*E. E. 4–a, 5–b, 6–c (*Wire and Radio Communication*)	3	3	5
E. E. 10–b (*Electric Railways*)		1½	
E. E. 21–c (*Theory of Electrical Circuits*)			4
Eng. 101–a (*Expository Writing*)	2		
E. E. 24–c (*Term Papers*)			1
E. E. 44–a, 45–b, 46–c (*A. I. E. E.*) (*Required*)			
Phys. 15–a (*Theory of Electrons*)	3		
Phys. 37–c (*Electrical Measurements*)			3
M. E. 74–a, 75–b, 75.5–c (*Power Plant Engineering*)	2	2	2
C. E. 43–a, 44–b (*Hydraulics*)	3	2	
†Mil. Sci. 27–a, 28–b, 29–c (*Coast Artillery*)			
	20	17½	18

Mechanical Engineering

SOPHOMORE YEAR

	Fall Term Credits	Winter Term Credits	Spring Term Credits
Convocation (*Required*)			
Phys. Ed. 54–a, 55–b, 56–c	½	½	½
Mil. Sci. 21–a, 22–b, 23–c	1½	1½	1½
Math. 7–a, 8–b, 9–c (*Calculus*)	3	3	3
Phys. 6–a, 7–b, 8–c (*Physics*)	4	4	4
Phys. 9–a, 10–b, 11–c (*Physics Laboratory*)	3	3	3
M. E. 56–b (*Kinematics*)		3	
Math. 121–c (*Astronomy*)			1½
M. E. 4–a, 5–b (*Machine Drawing*)	2	2	
M. E. 40–a, 41–b, 42–c (*Mechanical Laboratory*)	1½	1½	1½
M. E. 20–a, 21–c (*Machine Work*)	3		3
	18½	18½	18

JUNIOR YEAR

Convocation (*Required*)			
E. E. 25–a, 26–b, 27–c (*Electrical Machinery*)	4	4	4
M. E. 43–a, 44–b, 45–c (*Mechanics*)	3	3	3
M. E. 64–a, 65–b, 65.5–c (*Thermodynamics*)	3	3	3
M. E. 66–a, 67–b, 53–c (*Mechanical Laboratory*)	2	2	2
M. E. 82–a, 83–b, 84–c (*A. S. M. E.*) (*Required*)			
‡Econ. 104–a (*Economic History of Working Classes*)	3		
‡Econ. 105–b (*Law of Contracts*)		3	
‡Econ. 106–c (*Business Organization and Finance*)			3
Met. 1–a, M. E. 95–b, 96–c (*Aeronautics*)	3	3	3
	18	18	18

* Students may elect either E. E. 6–c or E. E. 13–c.

† Students electing Mil. Sci. 27–a, 28–b, 29–c are not required to enroll in Physics 15–a, E. E. 10–b and E. E. 21–c.

‡ Students electing Mil. Sci. 27–a, 28–b and 29–c are not required to take Econ. 104–a, 105–b, 106–c.

SENIOR YEAR

	Fall Term Credits	Winter Term Credits	Spring Term Credits
M. E. 74–a, 75–b, 75.5–c (*Power Plants*)	2	2	2
M. E. 58–a, 59–b, 60–c (*Machine Design*)	3	3	3
M. E. 55–a, 72–b, 73–c (*Mechanical Laboratory*)	2	3	3
M. E. 54–a (*Manufacture of Iron and Steel*)	2		
M. E. 92–a, 93–b, 94–c (*Management*)	3	3	3
C. E. 43–a, 44–b (*Hydraulics*)	3	2	
M. E. 80–c (*Heating and Ventilating*)			3
M. E. 85–a, 86–b, 87–c (*A. S. M. E.*) (*Required*)			
Eng. 101–a (*Expository Writing*)	2		
M. E. 90–b, 91–c (*Thesis*)		2	2
Mil. Sci. 27–a, 28–b, 29–c (*Coast Artillery*) or M. E. 76–a, 77–b, 78–c (*Automotive Engineering*)	3	3	3
	20	18	19

SUMMER SCHOOL

The University of New Hampshire Summer School (the tenth session of which will be held from July 3 to August 11, 1933) offers courses in most departments of all three colleges. The Summer School is designed to meet the needs of:

1. Teachers, superintendents and supervisors of secondary schools.
2. Students in the University of New Hampshire and in other colleges who desire to utilize the vacation period for the purpose of anticipating courses or supplying deficiencies.
3. Graduate students, who may earn the degree of Master of Arts, Master of Science or Master of Education for work done exclusively during summer sessions.
4. Candidates for admission to any of the colleges of the University who desire to obtain advanced standing or to complete some special requirement for admission.

For Summer School Bulletin, information as to particular courses, etc., address the Director of the Summer School, University of New Hampshire, Durham, N. H.

EXTENSION COURSES FOR UNIVERSITY CREDIT

In response to the insistent demand of the teachers of the state the Trustees of the University have approved offering extension courses for university credit. Professors are sent out to centers within the state where there is a demand for classes to be formed. At present the courses offered will depend on the teaching schedules of the various departments.

DESCRIPTION OF COURSES

(Alphabetically Arranged)

The title of each course is given in black face type. The numeral designates the particular course and the letter (a, b, or c) designates the term in which the course is given. The letter "a" indicates that a course is given the first term; "b" the second term; and "c" the third term. A combination of the letters (a–b, b–c, or a–b–c) attached to a numeral indicates that the course is given through the terms represented by the letters.

Following the title of each course is the description of the work given and the name of the instructor.

The next paragraph gives the following information in the order indicated: (1) prerequisites, if any; (2) in what curricula the course is required and the undergraduate year in which it should be taken; (3) the number of hours of recitations, preparation, or laboratory periods required a week; (4) the number of credits the course will count towards graduation. Lectures and recitations are fifty minutes in length. Laboratory periods are two and one-half hours in length.

All courses unless otherwise noted are open to students who have passed the prerequisites.

An elective course will be given only when there is a minimum of five students registered for the same.

ACCOUNTING

(See Economics)

AGRICULTURAL AND BIOLOGICAL CHEMISTRY

THOMAS G. PHILLIPS, *Professor*
STANLEY R. SHIMER, *Assistant Professor*
LELAND BURKHART, *Assistant*
EDWARD MECHESKI, *Assistant*

1–a. Agricultural Chemistry. A study of the chemistry of the carbon compounds with special emphasis on those of most importance in agriculture. The laboratory includes some methods of quantitative analysis. Assistant Professor Shimer and Mr. Mecheski.

Prerequisite: Chemistry 12–c. Required of Sophomores in Agriculture. 3 lectures; 2 laboratories; 5 credits.

2–b. Agricultural Chemistry. A survey of the relations of chemistry to the growth and development of plants and animals. Professor Phillips and Mr. Mecheski.

Prerequisite: Agricultural Chemistry 1–a or its equivalent. Required of Sophomores in Agriculture. 3 lectures; 2 recitations; 5 credits.

4–a. Physiological Chemistry. An advanced study of the chemistry of the fats, carbohydrates and proteins, and some of the general applications of chemistry to biology, such as colloids and enzyme action. Assistant Professor Shimer.

Prerequisite: Agricultural Chemistry 2–b or 24–b or equivalent preparation in organic chemistry and quantitative analysis. Required of students in Agricultural Chemistry, and of Pre-medical students. Elective for others. 3 lectures; 2 recitations; 5 credits.

5–b. Physiological Chemistry. The chemistry of animal physiology, including foods, digestion, metabolism and excretion. Assistant Professor Shimer.

Prerequisite: Agricultural Chemistry 4–a. Required of students in Agricultural Chemistry, and of Pre-medical students. Elective for others. 3 lectures; 2 recitations; 5 credits.

6–b. Plant Chemistry. A study of the chemistry of plant growth and development, and methods for the analysis of plant materials. Professor Phillips.

Prerequisite: Agricultural Chemistry 4–a. Required of students in Agricultural Chemistry. Elective for others. Given only in alternate years beginning with 1934–35. 2 lectures; 2 laboratories; 4 credits.

7–a, 8–b, 9–c. Agricultural Analysis. A study of the methods of analysis of fertilizers, feeding-stuffs and other products important in Agriculture. Professor Phillips and Assistant Professor Shimer.

Prerequisites: At least 6 credits in Quantitative Analysis and 8 credits in Organic Chemistry. Required of students in Agricultural Chemistry. Elective for Chemistry students and for others having the prerequisites. 4 laboratories; 4 credits.

19–c. Dairy Chemistry. A study of the chemistry and methods of analysis of milk and other dairy products. Assistant Professor Shimer.

Prerequisite: Agricultural Chemistry 2–b or equivalent preparation in organic chemistry and quantitative analysis. Required of Dairy Husbandry students. Elective for others. Given only in alternate years beginning with 1934–35. 1 lecture; 2 laboratories; 3 credits.

20–c. Chemistry of Animal Nutrition. The chemistry of feeds, digestion, metabolism and excretion. Assistant Professor Shimer.

Prerequisite: Agricultural Chemistry 2–b. Required of students in Animal Husbandry and Dairy Husbandry. 3 lectures; 2 laboratories; 5 credits. Given in alternate years beginning 1933–34.

21–c. Physiological Chemistry. The qualitative and quantitative examination of blood and urine. Assistant Professor Shimer.

Prerequisite: Agricultural Chemistry 5–b. Required of students in Agricultural Chemistry and of Pre-medical students. Elective for others. 3 lectures; 2 laboratories; 5 credits.

23–a. Household Chemistry. An introductory course in organic chemistry and its application to household affairs. The laboratory includes some methods of quantitative analysis. Assistant Professor Shimer and Mr. Mecheski.

Prerequisite: Chemistry 15–c. Required of Sophomores in Home Economics. 3 lectures; 2 laboratories; 5 credits.

24–b. Physiological and Food Chemistry. The chemistry of human physiology including enzyme action, digestion, absorption and metabolism, and of food materials. Assistant Professor Shimer and Mr. Mecheski.

Prerequisite: Agricultural Chemistry 23–a or its equivalent. Required of Sophomores in Home Economics. 3 lectures; 2 laboratories; 5 credits.

For courses primarily for graduate students, see Catalog of the Graduate School.

AGRICULTURAL ECONOMICS

M. Gale Eastman, *Professor*

H. C. Grinnell, *Assistant Professor*

1–a. Coöperative Marketing. The essential characteristics of cooperative development in this country, something of its present importance, and the principles underlying sound organization. Laws relating to corporations and coöperatives, problems in finance, and membership and business policies reviewed. Assistant Professor Grinnell.

Elective for Juniors and Seniors. 3 lectures; 3 credits.

2–a. Farm Management. Deals with the development of farming as a businesss; types of farming, size of farms, cropping systems, live-

stock problems, buying, selling, etc. Practical problems in working out factors of efficiency, balance, etc. Assistant Professor Grinnell.

Required of Seniors in Agriculture, except in Forestry. 2 lectures; 1 laboratory; 4 credits.

3–b. Rural Economics. History and economy in the development of rural living, including an inquiry into the present utilization of agricultural resources. Assistant Professor Grinnell.

Required of Juniors or Seniors in Agriculture. 3 lectures; 3 credits.

4–b. Farm Accounting. Lectures, reference work and farm problems relating to the principles of accounting as applied to farm records and farm cost accounts. Laboratory exercises include sets of complete cost accounts taken from actual farms. Assistant Professor Grinnell.

Required of Juniors in certain curricula. 1 lecture; 1 laboratory; 3 credits.

5–a. Agricultural Statistics. An elementary course designed to acquaint the agricultural student with some every-day problems of chance in biological phenomena and to give him some immunity against snap judgments, and some basis for the interpretation of current research information.

Elective for Seniors in Agriculture. 1 lecture; 1 laboratory; 2 credits.

6–a, 7–b. Agricultural Economics Seminar. Weekly discussions of current and fundamental economic problems, providing ½ to 2 credits and adjusted more or less to the needs and desires of the group electing. Professor Eastman.

Elective for Seniors in Agriculture and other students by permission.

8–a, 9–b. Special Agricultural Economics. Graduate, or other advanced credit, to satisfy a student's needs may be obtained in this course in special cases by permission of the head of the department.

Hours of meeting and hours of credit to be arranged.

10–b. Rural Social Problems. A consideration of rural social organizations and the development of rural leadership; some attention will be given to rural thought and feeling and the possible satisfactions of country life. Professor Eastman.

Prerequisites: Junior standing or permission of the department head. Required of Juniors in Agricultural Teacher Training and of Home Economics Extension Training Seniors. 2 lectures; 2 credits.

AGRICULTURAL EXTENSION TRAINING

JOHN C. KENDALL, *Director*

2–b. Extension Organization and Methods. A brief history of the origin and development of extension work in agriculture and home economics in the state and nation. Lectures on extension methods and practices. Actual demonstrations as put on in different parts of the state will be given by members of the resident and extension staff. Purpose of the course is to furnish a good understanding of the nature of extension organization, its coöperative relationships, and especially extension methods and the results to be attained in the field.

2 lectures; 1 laboratory; 3 credits. Course to be given under the direction of J. C. Kendall, Director of Extension Work. Elective for Seniors in Agriculture and required of Seniors in Home Economics Extension Curriculum.

3–c. Supervised Extension Work. During the third term of the senior year a limited number of students in agriculture and home economics with the approval of the Associate Dean of the College and the Director of the Extension Service will be allowed to do supervised extension work in the state under the immediate direction of a member of the extension staff. At least twelve weeks will be devoted to this field work. Director Kendall.

Prerequisite: Agricultural Extension 2–b. Required of Seniors in Home Economics Extension Curriculum. Field work, 18 credits.

AGRONOMY

(Agricultural Engineering)

FORD S. PRINCE, *Associate Professor*
L. J. HIGGINS, *Assistant Professor*
WALTER T. ACKERMAN, *Assistant Professor*
H. N. COLBY, *Instructor*

2–a. Field Crops. A study of the more important forage crops, especially grasses, legumes and roots. Attention will be given to their history, value, adaptation, production, harvesting and use. Practical work in identification and judging will be given in the field and laboratory. Assistant Professor Higgins.

Required of Juniors in certain curricula. 2 lectures; 1 laboratory; 3 credits.

3–b. Field Crops. A study of cereal and fiber crops, potatoes, and other important field crops not considered under 2–a. Attention will be given to their history, value, adaptations, production, harvesting and use. Laboratory work will include practical work in identification and judging. Assistant Professor Higgins.

Required of Juniors in certain curricula. 2 lectures; 1 laboratory; 3 credits.

4–c. Soils. A study of the nature and properties of soils, giving special consideration to the fundamental physical, chemical and biological processes and characteristics of productive soils. The subject matter will be of an introductory nature to serve all students in agriculture and will be fundamental for those who continue in agronomy work. Laboratory work will put into application some of the more important principles considered in class. Assistant Professor Higgins.

Required of Sophomores in Agriculture. 3 lectures; 1 laboratory; 4 credits.

6–b. Fertilizers. A study of the occurrence and function of plant food materials in soils and the use of manure and fertilizers in crop production. Special attention will be given to the production, care and preservation of manure, to the compounding of fertilizers, and the response of different types of crops to the several materials now used to stimulate crop production. Associate Professor Prince.

Prerequisite: Agricultural Chemistry 1–a. Required of Seniors in certain curricula. 3 lectures; 3 credits.

11–b, 12–c. Agronomic Literature. A special study of literature relating to soils and crops. Designed to meet the needs of students interested in some phase of agronomy. Practice in looking up literature and in the preparation of reports and abstracts will be given. Associate Professor Prince.

Prerequisites: Agronomy 2–a to 4–c inclusive. Elective for Seniors. Number of credits to be arranged.

15–a. Soil Management. A study considering the practical details of soil management based on the physical, chemical and biological processes involved. Systems of maintaining and building up the productive capacities of soils will be given attention. Agronomic literature will be cited and studied. Assistant Professor Higgins.

Prerequisite: Agronomy 4–c. Elective for Juniors and Seniors. 3 lectures; 3 credits.

16–b. Advanced Field Crops. A detailed study of the production and management of the most important crops grown in New England and particularly in this State, with special attention to cropping systems and crop rotations. Assistant Professor Higgins.

Prerequisite: Agronomy 2–a, 3–b. Elective for Juniors and Seniors. 3 lectures; 3 credits.

17–b. Seed Testing. A study of the official method of analyzing agricultural seeds for purity and germination, involving studies in the identification of seeds, as well as the technique of using equipment in weighing, germinating, counting, estimating, etc., for official reports. Assistant Professor Higgins.

Prerequisite: Botany 3–c. Elective for a very limited number of students. Hours arranged. 2 laboratories; 2 credits.

AGRICULTURAL ENGINEERING

1–a. Agricultural Engineering. The field of general engineering problems that confront the farm owner and operator. A study of elementary surveying, mapping, and drainage, field machinery, stationary engines, individual light plants, tractors, water supply, sewage disposal and sanitation, and mechanical building equipment. Assistant Professor Ackerman.

Required of Sophomores in Agriculture. 3 lectures; 1 laboratory; 4 credits.

5–b. Electric Farm Power. A course embracing the comparative utility of individual plant and central station current; rural line extension procedure; proper wiring for farm applications with particular emphasis on household, farmstead, dairying, poultry farm and horticultural uses. Special attention will be given the economics of various methods, costs of operation, care and maintenance of equipment, quality of results obtainable and effect on the farm labor problem. Assistant Professor Ackerman.

Required of Seniors in Dairy Husbandry, Poultry Husbandry and Teacher Training Curricula in Agriculture. Elective for other Seniors in the College of Agriculture. 3 recitations; 1 laboratory; 4 credits. (Formerly given as E.E. 104–b.)

13–b. Farm Shop. A practical course covering the utility of a farm shop, its location, arrangement and equipment. Principles of correct

repairing and maintenance of field equipment, buildings, stationary and automotive engines, motors, power transmission, water systems, etc.; installation of farm motors and equipment; soldering. Correct proportions, mixing and use of concrete; harness repair and care. Assistant Professor Ackerman.

Required of Agricultural Teacher Training Seniors. 1 recitation; 2 laboratories; 3 credits.

ANIMAL HUSBANDRY

LORING V. TIRRELL, *Associate Professor*
CARL L. MARTIN, *Assistant Professor*

1–a. Types and Breeds of Livestock. A study of the different breeds of horses, cattle, sheep, and swine in respect to their origin, history, development, characteristics, and adaptability to different conditions of climate and soil. One afternoon each week is devoted to judging the different breeds. Associate Professor Tirrell.

Required of Freshmen in Agriculture. 3 lectures; 1 laboratory; 3 credits.

2–c. Livestock Judging. The work consists of a study of the principles and practice of judging horses, beef cattle, sheep, and swine, and of the market classes and grades of horses and meat animals. The judging teams which represent the University at such expositions as the Eastern States at Springfield and the International at Chicago are selected from students taking this course and 2.5–c.

For a part of the laboratory work, trips are taken to some of the best breeding establishments in New England. Associate Professor Tirrell.

Prerequisite: Animal Husbandry 1–a. Required of Sophomores electing Animal Husbandry. 2 laboratories; 2 credits.

2.5–c. Advanced Livestock Judging. This is a continuation of 2–c and is open to students who have previously taken 2–c. Associate Professor Tirrell.

2 laboratories; 2 credits.

3–a. Feeds and Feeding. A study of the character, composition, and digestibility of feed stuffs, and the methods of feeding different kinds of farm animals. Numerous samples of grains and by-products are used for the purpose of familiarizing the students with the different feed stuffs. Practice is given in calculating rations for various purposes. Associate Professor Tirrell.

Required of Juniors in Animal Husbandry, General and Teacher Training curricula. 3 lectures; 3 credits.

4–a. Anatomy of Farm Animals. Lectures and recitations upon the form and functions of the different structures of the domesticated animals. Skeletons, various anatomical specimens, models, and charts are used to make the course as practical as possible. The purpose of this course is to acquaint the student with the structural make-up of the body together with the functions of the different organs. Assistant Professor Martin.

Required of Juniors in Animal Husbandry. Elective for others. 3 lectures; 3 credits.

5–b. Animal Diseases. A study of the more common infectious diseases of farm animals, their prevention, and control. An effort is made to teach the student how to recognize disease conditions and the importance of treating them at their outbreak by a qualified veterinarian. Assistant Professor Martin.

Required of Juniors in Animal Husbandry. Elective for others. 3 lectures; 3 credits.

6–c. Animal Diseases. Continuation of 5–b, dealing with common non-infectious diseases of the domesticated animals. Assistant Professor Martin.

Prerequisite: Animal Husbandry 5–b. Required of Juniors in Animal Husbandry. 3 lectures; 3 credits.

7–a. Animal Breeding. A study of the principles and practices of breeding farm animals, including crossbreeding, inbreeding, selection, inheritance, breed analysis, reproductive efficiency, fertility, sterility, Mendelism in relation to farm animals, acquired characters and variation. Practice is given in tracing and studying pedigrees. Associate Professor Tirrell.

Required of Seniors in Animal Husbandry. 3 lectures; 1 laboratory; 4 credits.

8–c. Livestock Markets and Products. A study of the various kinds of livestock markets and of the methods and regulations applying to the transportation of livestock. Some time will be spent in a study of the livestock centers, the stock yards, and the government inspection of animals before and after slaughter. The butchering of animals on the farm and the various cuts of meat will be discussed. Occasional trips will be taken to slaughter houses and packing plants. Associate Professor Tirrell.

Prerequisite: Animal Husbandry 1–a. Required of Seniors in Animal Husbandry. Elective for others. 3 lectures; 3 credits.

9–c. Sheep and Swine Husbandry. A consideration of the judging, breeding, feeding, management and preparation for the show ring of sheep and swine, with special reference to New Hampshire conditions. Associate Professor Tirrell.

Prerequisites: Animal Husbandry 1–a and 3–a. Required of Juniors in Animal Husbandry. Elective for others. 3 lectures; 1 laboratory; 4 credits.

10–b. Management of Horses and Beef Cattle. Lectures and recitations upon the care of brood mares and cows, management of stallions and bulls, the breaking and training of colts, preparation of animals for the show ring, the management of pure-bred beef herds, and the feeding and handling of steers. Associate Professor Tirrell.

Prerequisites: Animal Husbandry 1–a and 3–a. Required of Seniors in Animal Husbandry. Elective for others. 3 lectures; 1 laboratory; 4 credits.

12–c. Animal Husbandry Seminar. Library and reference work and the preparation of papers on various animal husbandry subjects of timely importance. Associate Professor Tirrell.

Prerequisites: Animal Husbandry 3–a, 5–b, 6–c, and 7–a. Required of Seniors in Animal Husbandry. Elective for others. 1 lecture; 1 laboratory; 2 credits.

ARCHITECTURE

ERIC T. HUDDLESTON, *Professor*
ARNOLD PERRETON, *Assistant Professor*
GEORGE R. THOMAS, *Instructor*

2–b, 3–c. Elements of Design. A lecture course introductory to the field of architectural design, discussing the influence of materials, architectural elements, their function and form, walls, moldings, openings, columns, roofs, plans, and ornament, followed by an analysis of the principles governing architectural design. Assistant Professor Perreton.

Required of Freshmen in Architecture. 2 recitations; 2 credits.

4–a, 5–b, 6–c. History of Architecture. Lectures with assigned reading on the historical development of the different periods of architecture and an analysis of the chief contributions each period made toward a

constructive and artistic advance in architectural design. Assistant Professor Perreton.

Required of Sophomores in Architecture. 2 recitations; 2 credits.

11–b, 12–c. Elements of Architecture. Drafting room exercises in the study of the classic orders of architecture, and elementary studies in architectural composition and design. Mr. Thomas.

Required of Freshmen in Architecture. 2 laboratories; 2 credits.

20–a, 21–b, 22–c. Domestic Architecture. Lectures and recitations devoted to a brief study of the history of domestic architecture; the relation of the house plan to home making and to the individual site, to the garden, to accessory buildings, and to the community; supplemented by drafting room exercises in the use of drawing instruments as a preparation for further study in house planning. Problems are issued to the student for graphical solution such as would be presented to an architect by a prospective home builder; followed by the study of an individual building problem, and making working drawings for a small frame house designed by the student to conform to specific requirements. Professor Huddleston.

Required of Sophomores in Home Economics. 20–a: 1 lecture; 1 laboratory; 2 credits. 21–b: 2 laboratories; 2 credits. 22–c: Elective by permission only. Hours and units to be arranged.

23–a. Domestic Architecture. Lectures and recitations devoted to a brief study of the history of domestic architecture; the relation of the house plan to the individual site, to the garden, to accessory buildings, and to the community, with special consideration given to economy in design and material. Professor Huddleston.

Required of Seniors in Architecture. 2 recitations; 2 credits.

41–b, 42–c. Professional Practice. Discussions and assigned reading covering the personal, ethical, business, and legal relations of the architect with clients, contractors, craftsmen, etc., and the relations that should exist between the architect and the community in which he lives; followed by a study of the fundamentals of specification writing and the preparation of an outline specification adapted to the requirements of the thesis problem as designed by each student. Professor Huddleston.

Required of Seniors in Architecture. 2 recitations; 2 credits.

50–a, 51–b, 52–c. Architectural Design. Class "B," Analytiques, programs of the Beaux Arts Institute of Design will be used as the basis for a progressive series of problems in architectural planning and design. Assistant Professor Perreton and Mr. Thomas.

Prerequisite: Arch. 12–c. Required of Sophomores in Architecture. 6 laboratories; 6 credits.

53–a, 54–b, 55–c. Architectural Design. A continuation of 52–c with Class "B" Project problems in architectural design, composition and planning. Assistant Professor Perreton.

Prerequisite: Arch. 52–c. Required of Juniors in Architecture 53–a: 1 lecture; 5 laboratories; 6 credits. 54–b, 55–c: 6 laboratories; 6 credits.

56–a, 57–b, 58–c. Architectural Design. Class "A" Project problems issued by the Beaux Arts Institute of Design will be used as a basis for advanced study of architectural design. Assistant Professor Perreton.

Prerequisite: Arch. 55–c. Elective by permission only. Credits to be arranged.

60–a, 61–b, 62–c. Architectural Thesis. The design of a building to conform to specified requirements such as would obtain in actual practice, followed by complete working drawings and details, including framing, heating, plumbing, and electric plans. This work will be made to conform to current practice in an architect's office. Professor Huddleston and Assistant Professor Perreton.

Prerequisite: Arch. 55–c. Required of Seniors in Architecture. 6 laboratories; 6 credits.

108–b, 109–c. Free-hand Drawing. Studio exercises in pencil, pen and ink, and brush of lines, space arrangements, proportion of line and form, symmetry and balance, supplemented with illustrated lectures presenting a general historical background in the various branches of art expression. Mr. Thomas.

Required of Freshmen in Architecture. 1 lecture; 2 laboratories; 2 credits.

110–a, 111–b, 112–c. Free-hand Drawing. Studio exercises in charcoal from architectural details, cast ornament, and the cast figure. Studio exercises in pencil sketching. Weather permitting, sketching from nature with special emphasis on tree and shrubbery forms. Mr. Thomas.

Prerequisite: Arch. 109–c. Required of Sophomores in Architecture. 2 laboratories; 2 credits.

113–a, 114–b, 115–c. Water Color and Modeling. A course consisting of water color studies from documents, photographs, and still life, supplemented with lectures presenting the theory of color and its application to architectural rendering. Modeling in clay of subjects from cast, followed by original designs from programs. Mr. Thomas.

Prerequisite: Arch. 112–c. Required of Juniors in Architecture. Arch. 113–a, 4 laboratories; 4 credits. Arch. 114–b, 2 laboratories; 2 credits. Arch. 115–c, 2 laboratories; 2 credits.

116–a, 117–b, 118–c. Advanced Free-hand Drawing. Studio work arranged to meet the needs of those students who show special ability and are judged capable of doing individual work of an advanced nature. Mr. Thomas.

Special permission must be obtained from the head of the department before registering in this course. Hours and credits to be arranged.

BOTANY

(Bacteriology)

ORMOND R. BUTLER, *Professor*
MARIAN E. MILLS, *Assistant Professor*
STUART DUNN, *Instructor*
L. W. SLANETZ, *Instructor*

1–a. General Botany. An introductory study of flowering plants with special emphasis on the structure and functions of organs. Assistant Professor Mills.

Required of Freshmen in Agriculture. 2 lectures; 2 laboratories; 4 credits.

2–b. General Botany. A continuation of 1–a. The study of selected types of algae and fungi, emphasizing growth habits, reproduction, evolutionary development and economic importance. Assistant Professor Mills.

Prerequisite: Botany 1–a. Required of Freshmen in Agriculture. 2 lectures; 2 laboratories; 4 credits.

3–c. General Botany. A continuation of 2–b. The study of the life histories of mosses, ferns and gymnosperms; the geographic distribution of economic plants of North America. Evolution and heredity. Assistant Professor Mills.

Prerequisite: Botany 2–b. Required of Freshmen in Agriculture. 2 lectures; 2 laboratories; 4 credits.

4–b, 5–c. Plant Physiology. Structure and properties of the cell; absorption and movement of water; metabolism; growth and irritability. Mr. Dunn.

Prerequisites: Botany 3–c and one year of Chemistry. Required of Juniors in Forestry and Seniors in Horticulture. 2 lectures; 2 laboratories; 3 credits.

6–a. Plant Histology. Characterization and differentiation of plant tissues; micro-technique. Mr. Dunn.

Prerequisite: Botany 3–c. 3 laboratories; 2 credits.

8–a. Bacteriology. A study of the morphology and physiology of the more important groups of bacteria; the principles of sterilization; preparation of media; technique of staining; methods of isolation and cultivation. Mr. Slanetz.

Prerequisite: One year of Chemistry. Required of all Home Economics Juniors. 2 lectures; 2 laboratories; 4 credits.

8.5–b. Bacteriology. Bacteriological studies of water, sewage, milk, meat, preserved foods, air and dust. Antiseptics and disinfectants. Mr. Slanetz.

Prerequisite: Botany 8–a. Required of all Home Economics Juniors. 2 lectures; 2 laboratories; 4 credits.

9–c. Bacteriology. A study of the bacteria causing important diseases of mammalians and avians; bacteriological and serological methods of disease diagnosis; current concepts of infections and immunity. Mr. Slanetz.

Prerequisite: 8.5–b. 2 lectures; 2 laboratories; 4 credits.

10–b, 11–c. Agricultural Bacteriology. A study of the morphology and physiology of the bacteria, and the practical application of bacteriology to agriculture, special attention being given to the relation of microorganisms to the soil, the dairy industry, diseases of plants and animals, and the maintenance of pure water supplies. Assistant Professor Mills.

Prerequisite: One year of Chemistry. Required of all Agricultural Sophomores. 2 lectures; 1 laboratory; 3 credits.

12–a. Plant Pathology. The bacterial and fungous diseases of plants, their symptoms, cause and prevention. Mr. Dunn.

Prerequisite: Botany 3–c. Required of Juniors in Horticulture and Seniors in Forestry and Teacher Training. 1 lecture; 2 laboratories; 3 credits.

13–b. Plant Pathology. A continuation of 12–a.

Prerequisite: Botany 12–a. Required of Juniors in Horticulture and Seniors in Forestry. 1 lecture; 2 laboratories; 3 credits.

14–a, 15–b, 16–c. Advanced Botany. The subject-matter will depend upon the training and desire of the student. It cannot be elected without previous consultation. Professor Butler, Assistant Professor Mills and Mr. Dunn.

Credits to be arranged.

17–b. Plant Pathology. Lectures on the fungous diseases of our economic plants, their symptoms, cause and prevention. Mr. Dunn.

Prerequisite: Botany 12–a. Required of Teacher Training Seniors. 1 lecture; 1 credit.

18–c. Systematic Botany. A study of the higher plants of our native flora. The student is required to prepare an herbarium of 60 specimens. Assistant Professor Mills.

Field trips; laboratory work; occasional lectures. 2 field trips and laboratories; 2 credits. (Formerly given as 19–c.)

CHEMISTRY

HAROLD A. IDDLES, *Professor*
MELVIN M. SMITH, *Associate Professor*
HEMAN C. FOGG, *Assistant Professor*
JAMES A. FUNKHOUSER, *Assistant Professor*
RICHARD H. KIMBALL, *Assistant Professor*
CHARLES M. MASON, *Assistant Professor*
ALFRED H. TAYLOR, *Instructor*
DAVID B. KELLAM, *Assistant*
MERCHANT L. CUSHING, *Assistant*
ERNEST W. ANDERSEN, *Assistant*
DONALD R. PITZ, *Assistant*

BREAKAGE. A breakage deposit is required in certain laboratory courses, from which the actual breakage is deducted each term. The deposit receipt must be presented to the instructor at the first class meeting.

1–a, 2–b, 3–c. Inorganic Chemistry. The course covers the fundamental laws and conceptions of chemistry; a study of the non-metals and metals together with their compounds. Facts and practical applications are given and the principles are explained and illustrated by demonstrations in the lectures. Professor Iddles, Associate Professor Smith, Assistant Professor Funkhouser, Mr. Taylor.

Elective for Liberal Arts students. Required of all Freshmen in the College of Technology, Freshmen in Agriculture and Sophomores in Forestry and Sophomores in Home Economics. The class will be sectioned for those entering with credit and without credit in high school Chemistry. 2 lectures; 1 recitation; 1 laboratory; 4 credits.

4–b, 5–c. Inorganic Chemistry. Similar to Chemistry 2–b, 3–c, but designed for majors in Chemistry. Associate Professor Smith and Assistant Professor Funkhouser.

Required of Freshmen in Chemistry. 2 lectures; 1 recitation; 2 laboratories; 5 credits.

22–a, 23–b, 24–c. Introductory Analytical Chemistry. The course is divided into two parts, the change being made about the middle of the second term. The first part is devoted to qualitative analysis. This includes both the theory and laboratory practice involved in the separation and identification of the common metallic and acidic constituents in both simple and complex mixtures. The second half covers theory, problems and laboratory technique necessary in gravimetric analysis and acidimetry. Assistant Professor Fogg and Mr. Taylor.

Prerequisite: Chemistry 3–c or 5–c. Required of Sophomores in Chemistry; elective for others. 2 lectures; 2 laboratories; 4 credits. (Formerly given as 22–c, 23–a, 28–b, 29–c.) Deposit: Five dollars each term.

25–a, 26–b, 27–c. Introductory Quantitative and Qualitative Analysis. The course is divided into two parts, the change being made about the middle of the second term. The first half covers the theory, problems and manipulation involved in some of the common procedures in quantitative analysis and includes work in both gravimetric and volumetric methods. A larger proportion of the time is devoted to volumetric work than in course 22–a, 23–b, 24–c and includes acidimetry, the determination of pH, oxidation-reduction processes, etc. The work is designed to meet the needs of students who do not expect to continue with more advanced quantitative analysis. The second part deals with the theory and laboratory practice of qualitative analysis. It includes the separation and identification of the more common metallic and acidic constituents in both simple and complex mixtures. Assistant Professor Fogg and Mr. Taylor.

Prerequisite: Chemistry 3–c. Required of Pre-medical Sophomores. 1 lecture; 2 laboratories; 3 credits. Deposit: Five dollars each term.

30–a, 31–b, 32–c. Quantitative Analysis. This is a continuation of 22–a, 23–b, 24–c and covers the theory, problems and methods involved in the determination of pH, precipitation reactions, oxidimetry, electroanalysis, colorimetry, gas and fuel analysis, etc. An attempt is made to present modern trends and newer procedures in quantitative analysis. Assistant Professor Fogg.

Prerequisite: Chemistry 24–c. Required of Juniors in Chemistry. Elective for Liberal Arts students. 2 lectures; 3 laboratories; 5 credits. Deposit: Five dollars each term.

40–a, 41–b, 42–c. Organic Chemistry. The lectures deal with the principal classes of organic compounds, aliphatic and aromatic, with emphasis upon class reactions and structural theory. In the laboratory, the preparation and purification of a selected number of organic compounds is carried on. Professor Iddles and Assistant Professor Kimball.

Prerequisite: Chem. 24–c. Required of Juniors in Chemistry; elective for others. 3 lectures; 2 laboratories; 5 credits. (Formerly given as 40–a, 41–b, 42–c, 43–a, 44–b, 45–c.) Deposit: Five dollars each term.

43–c. Qualitative Organic Analysis. A review study of the reactions and properties of organic compounds. Use of group reactions in the identification of organic substances. Professor Iddles and Assistant Professor Funkhouser.

Prerequisite: Chemistry 42–c. Elective for Senior Chemists. 2 lectures; 1 laboratory; 3 credits.

46–a, 47–b, 48–c. Organic Chemistry. Lectures and recitations. An introductory course in the study of the chemistry of carbon compounds considered with the needs of a pre-medical student in mind. Assistant Professor Kimball.

Prerequisite: Freshman Chemistry. Elective for Liberal Arts students. Required of Junior Pre-medicals. 3 lectures; 3 credits.

49–a, 50–b, 51–c. Organic Chemistry Laboratory. The work in this course consists mainly of laboratory practice in preparing and purifying organic compounds. Lectures and recitations will be held from time to time in connection with the practice. This is a companion course to 46–a, 47–b, 48–c, and must be taken parallel with that course. Assistant Professor Kimball.

Elective for Liberal Arts students. Required of Junior Pre-medicals. 2 laboratories; 2 credits. Deposit: Five dollars each term.

66–a, 67–b, 68–c. Elementary Physical Chemistry. A course devoted to those parts of physical and theoretical chemistry which have found important applications in physiology, bacteriology and other branches of biological science. Assistant Professor Mason.

Prerequisite: Freshman Chemistry. 2 lectures; 2 credits. This is a course designed particularly for the pre-medical student.

80–a, 81–b, 82–c. Thesis, Bibliography and Seminar. The thesis time is devoted to some selected subject, and the student is required to

present a thesis showing him to be a careful manipulator and a person of independent thought. In the first term the bibliography work is designed to aid the student in the use of the chemical library, particularly in the use of various chemical journals, dictionaries, reference books and other sources of information pertaining to chemical subjects. In the second and third terms, a weekly meeting is held to discuss recent topics of interest in chemistry. Members of the staff.

For Seniors in Chemistry who have completed Chemistry 32–c and 42–c. 1 lecture; 6 laboratories; 7 credits. (Includes work formerly given as 70–a, 71–b, 72–c.) Deposit: Ten dollars each term.

100–a, 101–b. Advanced Inorganic Chemistry. A course of study of the elements from the standpoint of the periodic law. Topics stressed in addition to the rarer elements are atomic structure, radioactivity, Werner's theory of complex compounds. Assistant Professor Funkhouser.

Prerequisite: Chemistry 24–c. Required of Juniors in the Technology Curriculum in Chemistry. Elective for others. 3 lectures; 3 credits.

110–a, 111–b, 112–c. Industrial Chemistry. This course consists of a study of inorganic chemical processes, organic chemical processes and the principles of chemical engineering. Professor Iddles, Assistant Professors Fogg and Mason.

Prerequisite: Chem. 32–c and 42–c. Required of Seniors in Chemistry. 3 lectures; 3 credits.

152–a, 153–b, 154–c. Advanced Organic Chemistry. A consideration of the more advanced theories of organic chemistry. Assistant Professor Kimball.

Prerequisite: Chemistry 42–c or 48–c. Elective for Seniors in Chemistry who intend to take their theses in Organic Chemistry. Elective for others. 3 lectures; 3 credits.

160–c. Introductory Physical Chemistry. This course will take up the general principles of chemistry from the exact quantitative standpoint. It will include a comprehensive study of molecular weights, solids, liquids, gases and colloids. A large number of problems will be assigned for solution by the student. Assistant Professor Mason.

Prerequisite: Chemistry 31–b, Math. 9–c, Physics 8–c. Required of Juniors in Chemistry. Elective for others. 3 lectures; 3 credits.

161–a, 162–b, 163–c. Physical Chemistry (continuation of 160–c). The principles of thermodynamics will be presented and their application to chemistry discussed. This will be used as a basis for the study of solutions, ionic theory, chemical equilibria, thermo-chemistry, conductance, electromotive force, etc. The experiments in the laboratory will include quantitative measurements illustrating the principles studied in the lectures. A large number of problems will be assigned for solution by the student. Assistant Professor Mason.

Prerequisite: Chemistry 160–c. Required of Seniors in Chemistry. 3 lectures; 2 laboratories; 5 credits. (Formerly given as 160–a, 161–b, 162–c, 163–a, 164–b, 165–c and M.E. 66–b, 67–c.) Deposit: Five dollars each term.

For courses primarily for graduate students, see Catalog of the Graduate School.

CIVIL ENGINEERING

EDMOND W. BOWLER, *Professor*
RUSSELL R. SKELTON, *Assistant Professor*
CHESTER E. DODGE, *Assistant Professor*
CHARLES O. DAWSON, *Instructor*

1–c. Plane Surveying. Theory and use of tape, level and transit. Field work consists of taping, differential and profile leveling, angle measurement and traversing. Mr. Dawson.

Prerequisite: Mathematics 2–b. Required of all Freshmen in the College of Technology, except those taking Architecture and Technology Curriculum in Chemistry. 1 recitation; 2 laboratories; 3 credits.

2–a. Topographic Surveying. Theory and use of transit, level and stadia on topographic surveys. City surveying. Adjustments of levels and transits. The field work for a topographic map of a selected area is completed in the field. Mr. Dawson.

Prerequisite: Civil Engineering 1–c. Required of Sophomores in Civil Engineering. 1 recitation; 2 laboratories; 3 credits.

3–b. Topographic Drawing. Exercises in lettering, conventional signs, and map making, including the preparation of a topographical map from survey notes obtained in Civil Engineering 2–a. Mr. Dawson.

Prerequisite: Civil Engineering 2–a. Required of Sophomores in Civil Engineering. 3 laboratories; 3 credits.

4–c. Railroad Curves. Theory of simple and compound curves. Field work consists of layout of simple and compound curves, special attention being given to practical problems often met in the field. Mr. Dawson.

Prerequisite: Civil Engineering 2–a. Required of Sophomores in Civil Engineering. 1 recitation; 2 laboratories; 3 credits.

6–c. Plane Surveying. This course is comparable to civil engineering 1–c. Mr. Dawson.

Prerequisites: Mathematics 22–b or 2–b. Required of Freshmen in Forestry. 1 recitation; 2 laboratories; 3 credits.

7–a. Topographic Surveying. Theory and use of transit, level and stadia in topographic surveying. A topographic survey of a small area is made in the field and the map plotted in the drafting room. Mr. Dawson.

Prerequisite: Civil Engineering 6–c. Required of Sophomores in Forestry. 1 recitation; 2 laboratories; 3 credits.

8–b. Engineering Astronomy. A study of the underlying theories used in the determination of latitude, longitude and azimuth from astronomical observations. Mr. Dawson.

Prerequisite: Civil Engineering 2–a. Required of Sophomores in Civil Engineering. 3 recitations; 3 credits.

20–c, 21–a. Highway Location. A preliminary field location of about one mile of highway line. The information obtained in the field is to be used in preparing a topographic strip map from which the final location is obtained. Methods of taking cross sections, setting slope stakes and staking drainage structures are studied. Astronomical observation for azimuth is required as a check on the line. Assistant Professor Skelton and Mr. Dawson.

Prerequisites: Civil Engineering 3–b and Civil Engineering 4–c either in parallel or as a prerequisite. Required of Sophomores in Civil Engineering. 20–c: 1 recitation; 2 laboratories; 3 credits. 21–a: 2 laboratories; 2 credits.

22–a. Materials. Designed to acquaint the student with the methods of manufacture, properties and applications of the various materials in engineering use, including timber, steel, stone, brick, cement, concrete, gravel, soils and bituminous materials. Assistant Professor Skelton.

Prerequisites: Civil Engineering 20–c. Required of Juniors in Civil Engineering. 2 recitations; 2 credits.

23–a, 24–b. Highway Engineering and Transportation. A detailed study of the economics of location and design of highways and city streets, the construction, maintenance and specifications governing the various types, and the administration and financing of our highway system. A consideration of the historical development of the transportation system, including land, water and air forms. Special emphasis is given to highway transportation and its influence on the social, economic and industrial growth as well as the many problems arising out of the use of the highway as an agency of transportation. Assistant Professor Skelton.

Prerequisites: Civil Engineering 20–c and 21–a. Required of Seniors in Civil Engineering. 2 recitations; 2 laboratories; 4 credits.

25–c. Railway Engineering. A general course dealing with the theory and problems incident to railway construction and maintenance. A further study of railway transportation is carried forward with a view towards the correlation of all forms of transportation. Assistant Professor Skelton.

Prerequisites: Civil Engineering 24–b. Required of Seniors in Civil Engineering. 2 recitations; 2 laboratories; 4 credits.

41–b, 42–c. Hydraulics. A study of the principles of hydrostatics and hydrokinetics including the laws governing static and dynamic pressure, the flow of water through orifices, tubes, nozzles, weirs, pipe lines and open channels. The theory of hydraulic machinery is given in the spring term. These courses include laboratory exercises in hydraulic machinery and in stream gaging. Professor Bowler.

Prerequisite: Mechanical Engineering 43–a. Required of Juniors in Civil Engineering. 41–b: 3 recitations; 3 credits. 42–c: 3 recitations; 1 laboratory; 4 credits.

43–a, 44–b. Hydraulics. Fundamental principles of hydrostatics and hydrokinetics. A study of fluid pressures, hydraulic gauges and meters, flow through orifices and nozzles, flow over weirs, pipe flow, flow in open channels, and the dynamic action of jets and streams. Mr. Dawson.

Prerequisite: Mechanical Engineering 43–a. Required of Seniors in Mechanical and Electrical Engineering. 43–b: 3 recitations; 3 credits. 44–c: 2 recitations; 2 credits.

50–a, 51–b, 52–c. Hydraulic and Sanitary Engineering. A study of water power engineering, water supply and purification and sewerage

and sewage disposal. This course covers precipitation, water losses, drainage areas, stream flow, water power estimates, hydraulic turbines, dams and water ways; the sources, quantity, quality and sanitary aspects of public water supplies; the methods of purification and distributing systems; the theory and problems of sewerage, the principles governing the disposal of sewage and the various methods of sewage treatment. This course consists of lectures, recitations, computations, reports and problems of design. Professor Bowler.

Prerequisite: Civil Engineering 42–c. Required of Seniors in Civil Engineering. 3 recitations; 1 laboratory; 4 credits. (Formerly given as 45–a, 49–a, 46–b, 47–b, 50–b, 48–c, 51–c.)

60–a, 61–b, 62–c. Stresses. The graphical and analytical methods of determining reactions, moments and shears in beams, girders and trusses under fixed and moving loads and the stresses in individual members. Professor Bowler and Mr. Dawson.

Prerequisite: Mathematics 8–b. Required of Juniors in Civil Engineering. 3 recitations; 1 laboratory; 4 credits.

63–a, 64–b, 65–c. Structural Design. Theory and problems relating to the design of steel bridges of the girder and truss type, steel and timber roof trusses, and frames of buildings. This course also includes a study of the theory of both plain and reinforced concrete structures such as slabs, beams, columns, piers, footings, retaining walls, and concrete bridges. Assistant Professor Skelton.

Prerequisite: Civil Engineering 62–c. Required of Seniors in Civil Engineering. 2 recitations; 2 laboratories; 4 credits.

70–a, 71–b, 72–c. Building Construction. A study of the materials used in architectural construction and the considerations affecting their choice for various parts of the structure. General types of structures classified according to use and materials used. Structural units. (Retaining walls, footings, piers, columns, beams, girders, trusses, etc.) Assistant Professor Dodge.

Required of Juniors in Architecture. 2 recitations; 1 laboratory; 3 credits. (Formerly given as Arch. 30–a, 31–b, 32–c.)

73–a, 74–b, 75–c. Building Construction. Problems in the determination of loads and stresses and principles of stability in buildings. Study of the fundamental principles involved in the different types of building

construction and some idea of the typical proportions imposed by the use of different kinds of materials. Theory and practice in structural design, including the making of complete framing drawings of a building. This work is made a part of and must be carried in parallel with Arch. 60–a, 61–b, 62–c. Assistant Professor Dodge.

Prerequisite: C.E. 72–c. Required of Seniors in Architecture. 3 lectures; 1 laboratory; 3 credits. (Formerly given as Arch. 33–a, 34–b, 35–c.)

76–b. Building Sanitation. A study of water, soil, waste, and vent pipe systems within the building; plumbing fixtures, traps, etc., and their installation, and the fundamentals of the layout of the above in different types of buildings. Assistant Professor Dodge.

Required of Seniors in Architecture. 1 recitation; 1 credit. (Formerly given as Arch. 39–b.)

80–a, 81–b, 82–c, 83–a, 84–b, 85–c. Student Chapter of the American Society of Civil Engineers. Junior and Senior students in Civil Engineering are required to join the student chapter of the American Society of Civil Engineers. In addition to the ordinary life of the student chapter which is carried on under the guidance of the student officers the chapter meets once a week under the direction of an instructor. These meetings consist chiefly of the presentation of prepared addresses by the student members. Professor Bowler and Assistant Professor Skelton.

Required of Juniors and Seniors in Civil Engineering. No credit.

87–a. Seminar. Discussion of the broader aspects of the engineer's interest in public affairs. Mr. Chamberlin.

One meeting a week; no credit.

90–b, 91–c. Thesis. The thesis embodies research or commercial investigation in which equal emphasis is placed upon the composition and accuracy of subject matter. Professor Bowler, Assistant Professor Skelton, Assistant Professor Dodge and Mr. Dawson.

Required of Seniors in Civil Engineering 90–b. 1 recitation; 2 laboratories; 2 credits.

DAIRY HUSBANDRY

JOHN M. FULLER, *Professor*
HERBERT C. MOORE, *Instructor*
BERT E. HUGGINS, *Instructor*

1–b. Milk and Its Products. A general study of such topics as the composition of milk and other dairy products, dairy manufacturing processes, and market milk. Professor Fuller.

Required of Sophomores in Agriculture. 3 lectures; 1 laboratory; 4 credits. Elective as a lecture course for other students. 3 lectures; 3 credits.

2–c. Dairy Cattle Judging. Animals in the college herd and in nearby herds will be judged. Professor Fuller.

Students interested in competing for places on the dairy cattle judging team should elect this course. Required of students in Dairy Husbandry. 1 lecture; 1 laboratory; 2 credits.

3–a, 3.5–b. Milk Production. The field of dairy husbandry in its relation to the producer. Feeding dairy animals; silage and soiling; raising dairy animals; dairy herd development; dairy barns; advanced registry management; fitting dairy animals for show; dairy cattle judging. Professor Fuller.

Required of Seniors in Dairy Husbandry. 3–a: 3 lectures; 1 laboratory; 4 credits. 3.5–b: 2 lectures; 1 laboratory; 3 credits.

4–b. Testing Dairy Products. A thorough study of the Babcock test, with special work in testing various dairy products for butter fat; acidity tests for milk and cream; moisture tests for butter and cheese; use of lactometer. Mr. Moore.

Prerequisite: Dairy Husbandry 1–b. Required of Juniors in Dairy Husbandry. 1 lecture; 2 laboratories; 3 credits.

5–a. Market Milk. Producing, handling, and distributing market and certified milk; dairy farm inspection; control of milk supply. Mr. Moore.

Prerequisite: Dairy Husbandry 1–b. Required of Seniors in Dairy Husbandry. 3 lectures; 1 laboratory; 4 credits.

6–c. Ice Cream and Cheese Making. (1) Lectures covering the manufacture of the more important types of cheese; (2) the making, handling, and marketing of ice cream and ices. Mr. Moore.

Prerequisite: Dairy Husbandry 1–b or 8–a. Required of Seniors in Dairy Husbandry. 2 lectures; 2 laboratories; 4 credits.

7–a. Butter Making. A study of the secretion and of the chemical and physical properties of milk; pasteurization; cream ripening, starters, churning; organization and operation of factories. Mr. Moore.

Prerequisite: Dairy Husbandry 1–b. Required of Juniors in Dairy Husbandry. 2 lectures; 1 laboratory; 3 credits.

8–a. Domestic Dairying. Nutritive value of milk, market milk, modified milk, certified milk, condensed milk, milk powder, fermented milk, butter, cheese, and ice cream. Laboratory exercises are given in the manufacture of dairy products. Mr. Moore.

Elective for Juniors and Seniors in Home Economics and in Liberal Arts curricula. 2 lectures; 1 laboratory; 3 credits.

9–a. Dairy Bacteriology. Methods of bacteriological analysis of milk and its products; relation of bacteria to milk and its products; study of effect on bacteria in milk of separation, clarification, pasteurization, aëration, and straining; and the application of bacteriological principles to the dairy industry. Mr. Moore.

Prerequisite: Botany 11–c. Required of Juniors in Dairy Husbandry. 3 lectures; 2 laboratories; 4 credits.

10–c. Dairy Seminar. Studies of experiment station and other literature covering the field of dairy husbandry. Professor Fuller.

Required of Seniors in Dairy Husbandry. Elective for other students. 1 to 2 credits.

11–c. Judging Dairy Products. The various standards and grades of dairy products will be studied. Practice will be given in judging milk, butter, cheese, and ice cream. Mr. Moore.

Elective for all students. 1 laboratory; 1 credit.

12–c. Advanced Dairy Cattle Judging. Comparative judging of dairy cattle. Written summary covering subject of judging. Professor Fuller.

Prerequisite: Dairy Husbandry 2–c. Elective for agricultural students. 1 lecture; 1 laboratory; 2 credits.

13–c. Advanced Dairy Science. Basic data, fundamental observations, and discussions of research contributing to the present status of the dairy industry. Mr. Moore.

Required of Seniors in Dairy Husbandry. Elective for other students who have adequate preparation in chemistry and bacteriology. 3 lectures; 4 credits.

ECONOMICS AND ACCOUNTING

HARRY W. SMITH, *Professor*
ARTHUR W. JOHNSON, *Associate Professor*
NORMAN ALEXANDER, *Associate Professor*
JOHN D. HAUSLEIN, *Assistant Professor*
RUTH J. WOODRUFF, *Assistant Professor*
*CLAIR W. SWONGER, *Instructor*
CARROLL M. DELGER, *Instructor*
DOROTHY C. SMALL, *Instructor*
RONALD B. WELCH, *Instructor*

ECONOMICS

Introductory Courses. Group A

1–a, 2–b, 3–c. Principles of Economics. This is a beginner's course and is planned for students who wish a general introduction to the field of Economics. Assistant Professor Woodruff, Mr. Swonger, Mr. Degler.

Required of all students majoring in Economics and of General Business students. Elective for other Sophomores, Juniors and Seniors. 3 lectures or recitations; 3 credits.

Service Courses. Group B

104–a. Economic History of the Working Classes. This course will trace the development of the laboring class from early times to the present, with emphasis upon recent labor conditions. Professor Smith.

For Juniors and Seniors in the College of Technology only. 3 lectures or recitations; 3 credits.

105–b. Law of Contracts. Associate Professor Alexander.

For Juniors and Seniors in the College of Technology only. 3 lectures or recitations; 3 credits.

106–c. Business Organization and Finance. This course will trace the evolution of the business unit from the individual entrepreneur to

* On leave of absence, 1932–33.

the modern business combination. It will deal with the financial and legal problems of each type, together with the legislative and government policies toward "big business" as revealed in trust legislation and court decisions. Mr. Swonger.

For Juniors and Seniors in the Colleges of Technology and Agriculture only. 3 lectures or recitations; 3 credits.

Advanced Courses. Group C

6–a. Economic and Commercial Geography. This course aims to acquaint the student with the economic aspect of geography and to survey the chief industries of the world and the principal commodities of world trade. Mr. Swonger.

Required of General Business students. Elective for Sophomores. 3 lectures or recitations; 3 credits.

7–b, 8–c. Economic and Commercial Development. This course will trace the commercial, economic and financial development of Europe and the United States. Special attention will be paid to this development during the last century. Mr. Degler.

Required of General Business students. Elective for Sophomores. 3 lectures or recitations; 3 credits.

Prerequisite for the following courses: Completion of one year's work in Principles of Economics except as designated

10–a. Labor Problems. This course deals with the historical background and present status of labor organizations and problems. Professor Smith.

Prerequisite: A satisfactory average in 18 credits in Economics. Required of General Business students. 4 lectures or recitations; 4 credits.

11–b. Transportation. This course gives an account of the development and organization of transportation agencies. Professor Smith.

Prerequisite: A satisfactory average in 18 credits in Economics. 4 lectures or recitations; 4 credits.

12–c. Public Finance. This course presents the theory and practice of public expenditures and revenues together with changed tendencies and taxation reform, as well as taxation problems in the State of New Hampshire. Professor Smith.

Prerequisite: A satisfactory average in 18 credits in Economics. 4 lectures or recitations; 4 credits.

13–a, 14–b, 15–c. Money and Banking. A course to set forth the principles and functions of money and their importance to society, together with a study of the various banking systems of the world with special emphasis on the Federal Reserve System of the United States. Mr. Swonger.

Prerequisite: Economics 3–c. Required of General Business students. Elective for Seniors. 3 lectures or recitations; 3 credits.

17–b. International Trade. The basic theories of international trade, foreign exchange and international payments. Assistant Professor Woodruff.

Prerequisites: Economics 1–a, 2–b, and 3–c, and 13–a. 3 lectures or recitations; 3 credits.

18–c. Marketing. A course to acquaint the student with the importance and complications of the marketing function. Mr. Degler.

Prerequisite: Economics 3–c. Required of General Business students. Elective for Juniors and Seniors. 3 lectures or recitations; 3 credits.

22–a. Corporations. This course deals with the evolution and forms of business organization. Mr. Swonger and Mr. Degler.

Elective for Juniors and Seniors. Required of Juniors in General Business. 3 lectures or recitations; 3 credits.

23–b. Corporation Finance. A study of the methods of financing corporate enterprise. Mr. Swonger.

Prerequisite: 22–a. Elective for Juniors and Seniors. Required of Juniors in General Business. 3 lectures or recitations; 3 credits.

24–c. Public Regulation of Private Business. This is a study of the public regulation of business organizations and their activities with special emphasis on methods of competition. Associate Professor Alexander.

Prerequisite: 23–b. Elective for Juniors and Seniors. Required of Juniors in General Business. 3 lectures or recitations; 3 credits.

34–a, 35–b, 36–c. History of Economics. It is the aim of this course to present a critical account of the development of economic thought in the leading nations of the Western world; to study the economic systems of Greece, Rome, medieval and modern Europe, including the manorial, guild, mercantile, kammeralistic, physiocratic, laissez faire,

classical, historical and socialistic systems; and to indicate the important relations of economic philosophy to historical, political and social environment. Professor Smith.

Prerequisite: Senior standing and a satisfactory average in 18 credits in Economics. 3 lectures or recitations; 3 credits.

40–a, 41–b, 42–c. Seminar in Current Economic Problems. Professor Smith.

Elective for Seniors majoring in Economics who have attained a satisfactory average in the department. Recitations and reports; 3 credits.

57–c. Salesmanship. A course designed to analyze the fundamental principles of personal selling. Consideration of the personal qualifications of the successful salesman; motives which prompt purchasing and the various appeals to these motives. The construction of sales arguments, etc.

Required of General Business students. Elective for Juniors and Seniors. 3 lectures or recitations; 3 credits. (Not given in 1933–34.)

71–a, 72–b, 73–c. Commercial Law. This is a study of the law of contracts, agency, sales and negotiable instruments. Associate Professor Alexander.

Required of General Business students. Elective for Juniors and Seniors. 3 lectures or recitations; 3 credits.

ACCOUNTING

NOTE.—Students who have completed two or more years of bookkeeping in preparatory school will be permitted to register for Intermediate Accounting (115–a, 116–b, 117–c) upon passing an examination covering the material of Elementary Accounting (112–a, 113–b, 114–c).

Schedule the following courses as Acct. 112–a, 113–b, etc.

112–a, 113–b, 114–c. Elementary Accounting. A thorough study of the basic principles and theory of accounting. Extensive practice in accounting problems of the single proprietorship and partnership types of business organization. Assistant Professor Hauslein.

Required of General Business Sophomores. Elective for other Sophomores, Juniors and Seniors. 2 lectures or recitations; 2 laboratories; 4 credits.

115–a, 116—b, 117–c. Intermediate Accounting. This course is designed to follow 114–c, continuing with the work in partnerships, fol-

lowed by a comprehensive study of corporation accounting. Extensive practice work in handling problems of corporation accounting. Associate Professor Johnson.

Required of General Business Juniors. Elective for students who have completed Accounting 114–c or its equivalent. See note above. 2 lectures or recitations; 2 laboratories; 4 credits.

118–a, 119–b, 120–c. Advanced Accounting. Advanced theory of accounting and extensive practice in solving problems involving such theory. Study of Federal Income Tax law and the accounting procedure in connection therewith. Practice in computing income tax returns. Associate Professor Johnson.

Elective for such students as have completed Accounting 117–c or its equivalent. 2 lectures or recitations; 2 laboratories; 4 credits.

121–a, 122–b, 123–c. Cost Accounting. The relation of cost accounting to general accounting. The place of cost accounting in modern business. Study of various cost systems and their applications to particular lines of business. Careful analysis of methods of computing costs. Associate Professor Johnson.

Elective for students who have completed Accounting 117–c or its equivalent. 2 lectures or recitations; 2 laboratories; 4 credits.

SPECIAL COURSES IN ACCOUNTING

124–a, 125–b. Household and Institutional Accounting. This course is designed primarily for students of Home Economics. It presupposes no previous knowledge of bookkeeping; hence the basic elements of accounts are first taken up, followed by their application to the management of households and institutions, and the principles of budget making. Associate Professor Johnson.

Elective for Liberal Arts women students. (Not given in 1933–34.)

131–a, 132–b, 133–c. Elements of Accounts. This course is open only to Agricultural and Technology students. Assistant Professor Hauslein.

3 lectures or recitations; 3 credits.

SHORTHAND AND TYPEWRITING

Schedule the following courses as Shorthand 141–a, etc., and Typewriting 151–a, etc.

141–a, 142–b, 143–c. Shorthand. A thorough study of the fundamental principles of Gregg shorthand. Miss Small.

5 lectures or recitations; 3 credits.

144–a, 145–b, 146–c. Shorthand. Development of a vocabulary, speed and accuracy in taking dictation. Students electing this work must also elect Typewriting 154–a, 155–b, 156–c. Miss Small.

Prerequisite: Shorthand 141–a, 142–b, 143–c, or the equivalent. 5 lectures or recitations; 3 credits.

151–a, b, c; 152–a, b, c; 153–a, b, c. Typewriting. This course includes keyboard drill; practice in setting up letters and business forms, tabulating and stencil cutting. Miss Small.

5 laboratories; 2 credits.

154–a, 155–b, 156–c. Typewriting. Transcription of shorthand notes. Typing of legal and technical forms, etc. To be taken only in conjunction with Shorthand 144–a, 145–b, 146–c. Miss Small.

5 laboratories; 2 credits.

161–a, b, c. Office Practice. The work will consist of lectures, demonstrations, study and practice of modern office methods. Miss Small.

Elective for women students only. Lectures, demonstrations, laboratories; 3 credits.

EDUCATION

JUSTIN O. WELLMAN, *Professor*
HARLAN M. BISBEE, *Associate Professor*
NAOMI G. EKDAHL, *Assistant Professor*
JOHN C. HERRING, *Instructor*
*EARL H. LITTLE, *Instructor in Agricultural Education*

The purpose of the courses in Education is to unite and correlate the forces of the college which contribute to the preparation of educational leaders in teaching and supervision in the secondary schools.

The prospective teacher of agriculture, industrial arts, home economics or any other subject should, with the advice of the members of the department, plan his course as soon as possible.

* Representing the State Department of Education in the administration of the Smith-Hughes Act.

An average grade of 75 or more must be obtained in 41–a–b–c and in five of the following courses: Education 21–a, 22–b, 23–c, 31–a, 32–b, 33–c, 34–a, 35–a, 36–b, 37–c, 38–a, 39–b, 40–c, 44–c.

Professional Education. Students who expect to teach in New Hampshire secondary schools should choose the prescribed curricula as outlined on page 91. The New Hampshire State Board of Education will accept the final marks in the following courses in lieu of the usual examinations for certificates: Education 38–a, 39–b, 40–c, 44–c, 31–a, and 32–b or 33–c. The State Board will set and score the final examination in Education 44–c. No credit in any of the above courses will be allowed by the State Board unless all of these courses are taken prior to Sept. 1 of the year of graduation.

College graduates or other students with four years of post-secondary education will be given secondary licenses provided that their courses included twelve semester hours † of college work in Education.

The majority of states require professional training which will include 12 to 24 semester hours (18–36 credits) of Education.

INTRODUCTORY COURSES

11–a–b–c. Effective Methods of Study. The aim of this course is to assist the student in learning how to work at his task of getting his education in the most effective way. The general method employed in the course is, first, to illustrate and explain the important factors that contribute to the total efficiency of a worker, then to outline a procedure for the attainment of the specific habits that must be formed to achieve the desired results. The topics discussed include: the need for greater efficiency in study and in work, and an analysis of learning; conservation of study—restoration of energy; use of ideals in the direction of energy; the development and use of attention and decision; planning one's work and working one's plan; securing favorable conditions for work; preparing an assignment; methods of memorization; the technique of investigation; how to prepare for an examination and how to answer examination questions. Assigned readings, problems, and exercises for oral discussion. Professor Wellman.

Open to Freshmen. Repeated in winter and spring terms.
3 lectures; 2 credits.

21–a. Introduction to Education. This course places the student in direct contact with general educational problems that he will meet in

† 18 credits. To convert credits into semester hours, use the ratio ⅔.

his teaching experience. The aim of the course is realized through a treatment of such problems as the money cost of education; delegating responsibility for carrying on schools; the school building; the present status of teaching; present inequalities in educational opportunities; the movement toward the nationalization of education. Each problem considered will be definitely related to the welfare of the child as the central objective of all educational procedure. Lectures, assigned readings and discussions. Professor Wellman and Associate Professor Bisbee.

Open to all students. 3 lectures or recitations; 3 credits.

22–b. History of Education. A general survey of Greek, Roman and European history; the Renaissance periods, an intensive study of modern educational movements; the evolution of the public school systems in the United States. A large part of the time is devoted to a discussion of the developments in American education since 1890. Modern tendencies in the secondary field will receive consideration in connection with such movements as junior high schools, junior colleges, pre-vocational and vocational training, professional education, education of the atypical pupil. Lectures, assigned readings, reports and discussions. Mr. Herring.

Prerequisite: Education 21–a. 3 lectures or recitations; 3 credits.

23–c. Classroom Management. This is a basal course for teachers and it places special emphasis on classroom organization and control as a problem of large importance. It presents the class as a great social instrument, education as a process of social adjustment, and management as a constructive social undertaking. It aims to furnish students with a compendium of principles that will furnish a foundation for the mastery of technique, that will interpret these principles in the light of accepted psychological laws, and that will unite these principles and laws into a coherent system. The laboratory method will be employed and differentiated assignments will permit each student to progress at his own optimum rate. Mr. Herring.

Prerequisite: Education 22–b. 3 lectures or recitations; 3 credits.

31–a. Pyschology of Childhood. An intensive study of the development of the mind from childhood to adolescence. A careful interpretation of the development of the individual's mental processes with a view to proper methods of education is given special attention. Lectures,

problems, assigned readings and discussions. Assistant Professor Ekdahl.

Required of Seniors in Home Economics Teacher Training Curriculum. Open to Juniors and Seniors. Accepted for State Secondary Certificate. 3 lectures or recitations; 3 credits.

32–b. Psychology of Adolescence. The purpose of this course is to give high school principals and teachers a deeper appreciation of the habitual and impulsive life of boys and girls in their teens. Topics: preadolescence; the physical and mental traits of high school pupils; individual differences among high school pupils and their implications; motor training, gymnastics, athletics, play, sport, and games as they function in the education of the youth; growth of social ideas; adaptation of school work to intellectual development; moral and religious training. Lectures, problems, assigned readings and discussions. Assistant Professor Ekdahl.

Prerequisite: Education 31–a. Required of Seniors in the Agricultural Teacher Training curriculum. Accepted for a State Secondary Certificate. Open to Juniors and Seniors. 3 lectures or recitations; 3 credits.

33–c. Psychology of Learning. This course considers the nature of learning and retention, and their neural bases; learning curves, their uses and significance; forms of learning; motives to learning; factors and conditions affecting the rate and permanency of learning; problems relating to learning capacity; transfer of training, and means of effecting beneficial transfers; applications to practical school work, and to the training of persons requiring special treatment. Lectures, assigned readings and discussions. Assistant Professor Ekdahl.

Prerequisite: Education 32–b. Accepted for the State Secondary Certificate. 3 lectures or recitations; 3 credits.

34–a. Applied Psychology in Vocational Education. The purpose of this course is to assist the student in obtaining a more accurate and complete understanding of human nature. The elementary facts, laws and principles of psychology are considered with specific applications to professional and vocational education problems and to vocational guidance. Lectures, assigned readings and discussions. Assistant Professor Ekdahl.

Required of Juniors in Agricultural Teacher Training curriculum. Open to Juniors and Seniors. Accepted for the State Secondary Certificate. 3 lectures or recitations; 3 credits.

35–a. Measurements and Statistics. This course deals with the principles, methods and application of various types of scales for measuring general mental ability and educational achievement. It includes a brief survey of statistical methods essential to an understanding of testing. Sufficient practice in giving tests is provided to give the student an appreciation of psychological methods of procedure. Assistant Professor Ekdahl.

Prerequisite: Education 33–c. Senior course. 3 lectures or recitations; 3 credits.

36–b. Measurement of Achievement. This course will furnish an opportunity to study the results of education as measured by evidences that children are learning. Some of the topics discussed are: school marks; the development of standard tests; the diagnostic and prognostic study of tests; the interpretation of the results of achievement tests; how to develop scales in various secondary school subjects; the effects of measurements on examinations, scholarship marks, methods, supervision, courses and the like. Lectures, assigned readings, problems, and discussion. Assistant Professor Ekdahl.

Prerequisite: Education 35–a. 3 lectures or recitations; 3 credits.

37–c. Measurement of Aptitudes and Mental Alertness. This course will concern itself with the problem of analyzing various types of intelligence. It deals with the chief facts of normal, mental, physiological, and anatomical development as a basis for differentiation in classroom procedure. Some attention will be given to the problem of adjustment among super-normal and sub-normal pupils. A technique of the administration of group and individual tests is studied and emphasis is laid upon performance tests. Lectures, assigned readings, problems, and discussions. Assistant Professor Ekdahl.

Prerequisite: Education 36–b. 3 lectures or recitations; 3 credits.

38–a. Secondary Education in the Junior High School. The evolution of the junior high school; its particular features and functions; the attempt to humanize the education of adolescents and advance the cause of democracy are some of the topics discussed. Considerable attention is given to the program of studies for and administration of junior high schools. Consideration is given in this course to extra-classroom activities and their articulation with classroom procedures.

Lectures, assigned readings, problems, discussions. Professor Wellman and Associate Professor Bisbee.

Prerequisite: Education 23–c. Open to Juniors and Seniors. Accepted for a State Secondary Certificate. 3 lectures or recitations; 3 credits.

39–b. Secondary Education. Evolution of secondary schools, their articulation with elementary schools, colleges, technical institutes, vocations, and the home; teaching staff; curriculum; student organizations; life guidance; aims and values of the various high school subjects; extra-curricular activities. Lectures, assigned readings, problems and discussions. Professor Wellman and Associate Professor Bisbee.

Prerequisite: Education 38–a. Accepted for State Secondary Certificate. 3 lectures or recitations; 3 credits.

40–c. Classroom Methods. A consideration of the purposes of high school instruction; selection and arrangement of subject matter; types of learning involved in high school subjects; the place of practice or drill; the significance of reflective thinking and correct habit formation; the art of questioning; directed study; the measurement of the results of teaching. Lectures, assigned readings, problems and discussions. Professor Wellman and Associate Professor Bisbee.

Prerequisite: Education 39–b. Required of Juniors in Agricultural and Seniors in Home Economics Teacher Training. Accepted for a State Secondary Certificate. 3 lectures or recitations; 3 credits.

41–a–b–c. Supervised Teaching. The student participates in the conduct of class exercises and in the control of the class room, at first chiefly as an observer, but gradually entering into teacher responsibilities until complete charge of the class work is secured. Frequent conferences and discussions. The work will be under the direction of Associate Professor Bisbee.

Prerequisites: Senior standing in a Professional Education Curriculum and permission of the head of the subject-matter department. 3–18 credits.

42–a. History and Principles of Vocational Education. The historical development of vocational education. The psychological and sociological bases of vocational education; problems, institutions, methods, contemporary movements and legislation; applications of research in relating vocations and education. Lectures, assigned readings and discussions. Mr. Herring.

Required of Seniors in Home Economics and Agricultural Teacher Training curricula. Senior course. 3 lectures or recitations; 3 credits.

43–b. Mental Hygiene. This course will consider some of the more important chapters in modern school hygiene: conditions that determine growth and development, physiological age, the physical and mental differences between children and adults, the general principles of somatic and mental hygiene, tests of ability to work and physical condition, medical inspection, the development of habits of healthful mental activity and the hygienic aspects of various school exercises. Lectures, assigned readings, cases and discussions. Assistant Professor Ekdahl.

Prerequisite: Education 33–c. Junior and Senior course. 3 lectures or recitations; 3 credits.

44–b–c. New Hampshire State Program of Studies and School Law. This course will consider the aims and purposes, the plan or organization and administration of the secondary school as outlined in the New Hampshire State Program of Studies. This program of studies will be evaluated in the light of those used in other states and students will have an opportunity here to become thoroughly acquainted with the secondary school organization in New Hampshire. Similar emphasis will be placed on the New Hampshire School Law. Lectures, assigned readings, and discussions. Associate Professor Bisbee.

Senior course. Preparatory for the State examinations in Secondary Program and in School Law. 3 lectures or recitations; 3 credits.

45–a. School Administration. A course in the fundamental principles of school administration intended primarily for superintendents, and for those who are preparing to become superintendents or supervisors, or directors of educational research. Topics: principles of scientific management applied to school administration; school records and reports; problems of school finance; judging school buildings; special schools; special phases of school work as health education, compulsory attendance; the training of school superintendents and supervisors; the uses of school surveys; the publicity work of a school system. Reference reports on special topics and discussions. Mr. Herring.

Open especially to men and women with teaching experience, or to those who have had several Education courses and wish to prepare themselves for supervisory positions. Admission by consent of the instructor. 3 lectures or recitations; 3 credits.

46–b. High School Administration. The following topics will be covered: the legal status of the secondary high school; high school population; the problem of reorganization; the program of studies; vocational education and guidance in the high school; grading, measurement, classification, excess credit for quality; enrolling the student; social organization; community relationships; the high school library, staff, buildings, costs and efficiency in general. Lectures, assigned readings and discussions. Associate Professor Bisbee.

Open especially to men and women who wish to become principals or headmasters. Admission by consent of the instructor. 3 lectures or recitations; 3 credits.

47–c. Principles of Education. Selected biological, psychological, sociological and statistical material will be treated in such way as to give the student not only a survey of the fundamental principles of education, but also a good basis for more intensive courses in education. Educational theory stressing the more important principles involved in the process of education especially in the secondary schools. Lectures, assigned readings and discussions. Associate Professor Bisbee.

Open to men and women who wish to become administrators or supervisors. Admission by consent of instructor. 3 lectures or recitations; 3 credits.

AGRICULTURAL EDUCATION

48–b. Agriculture in the High School. This course deals with special methods of teaching agriculture in the high school, with emphasis upon New Hampshire requirements as set up by the State Board of Education. The chief topics considered are: planning and equipping of classrooms and shops, selection of reference books, use and construction of charts and illustrative materials, the curriculum, the yearly plan of work; the presentation of materials of instruction through recitation, laboratory, field work and excursions; teaching through the home project, and supervised study. Mr. Little.

Required of Seniors taking the Agricultural Teacher Training Curriculum, and open only to those students. 3 lectures or recitations; 3 credits.

49–c. Supervised Teaching in Agriculture. Each senior in the Teacher Training Curriculum will spend at least ten weeks as an apprentice teacher in some agricultural high school selected by the State Commissioner of Education and the head of the Department of Education at the University of New Hampshire. This work will be under the regular

teacher of Agriculture in the high school, and will be supervised by the instructor in Agricultural Education at the University of New Hampshire. Mr. Little.

Required of Seniors taking the Agricultural Teacher Training Curriculum, and open only to those students. 18 credits.

EDUCATIONAL PROBLEMS

52–a. Democracy in Education and Character Development. This course will discuss student participation in high school control; social functions, their nature, supervision, time, and place. The underlying principles of club work, together with a discussion of organization and administration of typical clubs of senior high schools, will be given careful attention. The problem of character education and a discussion of the moral standards in our high schools as revealed by investigations will furnish the student with concrete evidence in this interesting field. Lectures, assigned readings, problems, and problems of research. Professor Wellman and Associate Professor Bisbee.

Open to Seniors in Professional Education. 3 lectures or recitations; 3 credits.

53–b.. Educational and Vocational Guidance. This course endeavors to make clear the problems with which the school counselor, the employment manager, and the intelligent individual himself have to deal. It discusses the beginnings of guidance, pseudo-guidance, counselors' work in junior and senior high schools, and shows the intelligent student how he may guide himself, the methods of securing a position and obtaining advancement. Lectures, assigned readings, projects, problems, case studies with special reports. Professor Wellman and Associate Professor Bisbee.

Open to Seniors in Professional Education. 3 lectures or recitations; 3 credits.

54–c. The Psychology of Management. This course is designed to help those who are concerned with administration and supervision, whether in the teaching profession or in any business occupation, to establish and maintain that human efficiency which results from high group morale. There will be a discussion of teacher participation through advisory council, shop committee plans, and other means of promoting democracy in the field of management. Three-tenths of the time of this course will be devoted to the consideration of the psychology of camp leadership and special lectures will be introduced through the

coöperation of the college Y. M. C. A. and Y. W. C. A. The camp leadership section will be open to all students and will carry three time units credit. Projects, problems, topical reports and discussions. Professor Wellman.

Open to Seniors in Professional Education. 3 lectures or recitations; 3 credits.

55–a, 56–b, 57–c. Special Problems in Educational Psychology. In this course an opportunity is afforded for intensive experimental and statistical work in educational psychology. Special problems may be carried over two or more terms.

Open to Seniors and graduate students who have 9 credits in Educational Psychology. Credits to be arranged.

CLASSROOM PROCEDURES

The purpose of these courses is to aid the student in obtaining a mastery of the technique of instruction in the secondary school subjects. The content of the high school subjects will be carefully scrutinized, standard texts evaluated, and visual aids manipulated. The content of each course will be divided into teaching units and each student will plan the procedure for teaching these units to high school pupils. These special methods courses will be taught so as to present the most approved devices for motivation, for concentric assignments, for supervision of study, and for effective pupil activity.

40.4–a. The Teaching of History and Social Science in Secondary Schools. Professor Wellman.

40.7–b. The Teaching of the Physical and Biological Sciences in Secondary Schools. Professor Wellman.

Prerequisite: Junior standing in Professional Education. 3 lectures or recitations; 3 credits.

ELECTRICAL ENGINEERING

Leon W. Hitchcock, *Professor*
Frederick D. Jackson, *Assistant Professor*
William B. Nulsen, *Assistant Professor*

1–a, 2–b, 3–c. Dynamo Electric Machinery. This course includes a general study of electric and magnetic quantities, direct current circuits, magnetic circuits, direct current generators and motors, primary and secondary cells and batteries, electrolysis, electrical measuring instruments, inductance, capacitance, alternating current circuits, power

factor, wave form, alternators and armature windings. Professor Hitchcock, Assistant Professors Jackson and Nulsen.

Prerequisites: Physics 8–c, Mathematics 9–c, and Electrical Engineering 33–c. Required of Juniors in Electrical Engineering. 3 recitations; 3 credits.

4–a. High Frequency Circuits and Radio Communication. General properties and laws of high-frequency circuits; oscillating circuits; radiation; radio transmission; a study of the thermionic vacuum tube; the uses of the vacuum tube; special tubes; radio telephony; a study of receiving sets and loud speakers; new developments. Assistant Professor Jackson.

Prerequisites: Electrical Engineering 3–c, 16–b, 27–c or 36–c. Required of Seniors in Electrical Engineering. 3 recitations; 3 credits.

5–b. Telephone Communication. A study of the acoustic and electrical principles of telephony, transmitting and receiving apparatus; magneto and common battery switchboards and accessories; principles of automatic telephone systems; phantom, simplex, and composite circuits; transpositions; protection; transmission theory of lines. Study and measurement of tube characteristics. Assistant Professor Jackson.

Prerequisite: Electrical Engineering 4–a. Required of Seniors in Electrical Engineering. 2 recitations; 1 laboratory; 3 credits.

6–c. Telephone Transmission Characteristics and the Telephone Plant. Determination of line and cable characteristics; measurement of transmission losses and gains; gain-frequency characteristics; network balance; filters; repeaters and repeater circuits; telephone plant installations and maintenance practices. Assistant Professor Jackson.

Prerequisite: Electrical Engineering 5–b. Elective for Seniors in Electrical Engineering. 3 recitations; 1 laboratory; 5 credits.

7–a, 8–b. Electrical Engineering Practice. This course includes a detailed study of alternators, transformers, induction motors, regulators, synchronous motors, converters and rectifiers. Professor Hitchcock and Assistant Professor Jackson.

Prerequisite: Electrical Engineering 3–c. Required of Seniors in Electrical Engineering. 3 recitations; 3 credits.

9–c. Transmission and Distribution Systems. A study of the factors affecting the design, construction and operation of transmission lines

and distribution circuits. This includes the electrical, mechanical and economic calculations involved; lightning protection methods and apparatus, etc. Professor Hitchcock.

Prerequisite: Electrical Engineering 8–b. Required of Seniors in Electrical Engineering. 3 recitations; 3 credits.

10–b. Electric Railways. The practicability of construction from an economic standpoint; determination of the size, type and seating capacity of cars; track location and construction; train schedules; methods of control; train resistance; speed-time and current-time curves; selection of motors; the feeder system; electrolysis; power station and sub-station location; storage batteries; signal systems; electric track switches, etc. Professor Hitchcock.

Elective for Seniors in Electrical Engineering. 2 recitations; 1½ credits.

11–a, 12–b, 13–c. Electrical Laboratory. This course includes the operation and testing of direct and alternating current motors and generators, transformers, rotary converters, rectifiers, etc. A written report on each experiment or test is required. Assistant Professor Nulsen.

Prerequisite: Electrical Engineering 30–c. 11–a and 12–b required of, and 13–c elective for Seniors in Electrical Engineering. 11–a and 12–b: 2 laboratories; 4 credits. 13–c: 3 laboratories; 5 credits.

15–a, 16–b. Industrial Electricity. This course consists of a study of the electric circuit; the magnetic circuit; direct current generators and motors; elementary electrochemistry covering storage batteries, refining of metals, electrotyping, and electroplating; inductance; capacitance; the alternating current circuit; alternating current generators, motors, starting devices, controllers, transformers, converters and rectifiers. Assistant Professor Nulsen.

Required of Seniors in Chemistry. 2 recitations; 1 laboratory; 3 credits.

19–b. Illumination Engineering. A study of the National Electrical Code Rules for electrical wiring and apparatus; arc and incandescent lamps; the principles of photometry and illumination; shades and reflectors; residence, office, store and factory lighting; street lighting; flood lighting; electric signs; illumination calculations; rates, etc. Assistant Professor Nulsen.

Required of Seniors in Electrical Engineering. 2 recitations; 2 credits.

21–c. Theory of Electrical Circuits. The application of mathematics to the solutions of electrical circuit problems, including the use of differential equations, Heaviside's operators, and symmetrical phase components. The derivation of fundamental formulas and constants. Assistant Professor Nulsen.

Prerequisite: Electrical Engineering 8–b. Required of selected Seniors in Electrical Engineering. 3 recitations; 1 laboratory; 4 credits.

24–c. Term Paper. An investigation of the history and development of electrical theory or equipment, or an original research involving electrical principles and their application. The written paper must conform to the rules of grammar and composition and must be submitted at stated intervals for criticism. Professor Hitchcock.

Required of Seniors in Electrical Engineering. 1 laboratory; 1 credit.

25–a, 26–b, 27–c. Electrical Machinery. A study of the electric circuit; the magnetic circuit; direct current generators and motors; primary cells; storage batteries; inductance; capacitance; the alternating current circuit; alternating current generators, motors, starting devices, controllers, transformers, converters and rectifiers. Assistant Professor Jackson.

Required of Juniors in Mechanical Engineering. 3 recitations; 1 laboratory; 4 credits.

28–a, 29–b, 30–c. Electrical Laboratory. The operation and testing of direct current circuits and machinery to supplement the theory covered in Electrical Engineering 1–a, 2–b, 3–c. Assistant Professor Nulsen.

Prerequisite: Electrical Engineering 33–c. Required of Juniors in Electrical Engineering. 1 laboratory; 2 credits.

31–a, 32–b, 33–c. Introduction to Electricity. An elementary study of electrical circuits and machinery consisting of both calculations and experiments. Professor Hitchcock.

Required of Sophomores in Electrical Engineering. 31–a: 1 laboratory; 1 credit. 32–b: 1 recitation; 1 laboratory; 1½ credits. 33–c: 2 recitations; 1 laboratory; 2 credits.

34–a, 35–b, 36–c. Electric Machinery. The electric circuit; the magnetic circuit; direct current generators and motors; primary and secondary cells; inductance; capacitance; the alternating current cir-

cuit; alternating current machinery and controlling devices. Assistant Professor Jackson.

Required of Juniors in Civil Engineering. 2 recitations; 1 laboratory; 3 credits.

37–a, 38–b, 39–c. Electrical Problems. The solution of problems involving both direct current and alternating current circuits and machinery. Professor Hitchcock.

Required of Juniors in Electrical Engineering. 2 recitations; 2 credits.

41–a, 42–b, 43–c. Student Branch of the American Institute of Electrical Engineers. A student organization conducted in accordance with the by-laws of the Institute with meetings given a place on the student's class schedule. Each student is required to present and discuss an approved subject. At times the meeting may take the form of a debate, an address by an outside lecturer or a motion picture of an instructive nature. A member of the department will be present at each meeting. Students electing this subject must become student members of the A. I. E. E. and must subscribe to a magazine selected by the department.

Required of Juniors in Electrical Engineering. 1 recitation; no credit.

44–a, 45–b, 46–c. Student Branch of the American Institute of Electrical Engineers. Continuation of 43–c. The meetings of the Branch are attended by both Juniors and Seniors. Students electing this subject must become student members of the A. I. E. E. and must subscribe to a magazine selected by the department.

Required of Seniors in Electrical Engineering. 1 recitation; no credit.

100–c. Electric Circuits. Adapted primarily to students in architecture. The calculation of wire sizes for circuits; a comparison of three-wire with two-wire circuits; the wiring of buildings for light and power; the requirements of the National Board of Fire Underwriters in connection with electrical installations; a study of types of lighting fixtures; reflectors; residence lighting, etc. Professor Hitchcock.

Required of Juniors in Architecture. Elective for Seniors in Liberal Arts and Agriculture. It is necessary to limit the number of students electing this course. Approval of the head of the department must be secured. 2 recitations; 1 laboratory; 3 credits.

ENGLISH

ALFRED E. RICHARDS, *Professor*
HAROLD H. SCUDDER, *Professor*
WILLIAM G. HENNESSY, *Associate Professor*
LUCINDA P. SMITH, *Associate Professor*
EDMUND A. CORTEZ, *Assistant Professor*
PAUL S. SCHOEDINGER, *Assistant Professor*
CARROLL S. TOWLE, *Assistant Professor*
E. BARTON HILLS, *Assistant Professor*
ROBERT G. WEBSTER, *Instructor*
THOMAS H. MCGRAIL, *Instructor*
LEONARD W. BUELL, *Instructor*
JOHN C. HERRING, *Instructor*
BETHYL C. HENNESSY, *Assistant*

General Requirements

All Freshmen are required to take English 1–a, 2–b, 3–c. The exceptional student who demonstrates his ability to proceed to more advanced work, upon the recommendation of the head of the department of English and with the approval of the dean of his college, may be excused from all or a part of this course. A student so exempt must take, however, an equal number of credits in such other English courses as the dean of his college may prescribe.

COURSES OPEN TO FRESHMEN

1–a, 2–b, 3–c. Freshman Composition. The aim of this course is to enable the student to write correct English. The principles of exposition, description, and narration are studied. There is drill in the mechanics of composition, and there is constant writing of themes both as outside assignments and as laboratory work in class. Associate Professor Smith, Assistant Professor Hills, Mr. Webster, Mr. McGrail, Mr. Buell, Mr. Herring.

Required of all Freshmen in the University. 3 lectures or recitations; 3 credits. *This is a year-course when required of or elected by students in the College of Liberal Arts.*

4–a, 5–b, 6–c. Survey of English Literature. A general survey of English literature from its beginnings to the year 1900. Lectures and recitations. Assistant Professor Schoedinger.

Required of students majoring in English; elective for all others. 3 lectures or recitations; 3 credits. *This is a year-course when required of or elected by students in the College of Liberal Arts.*

7–a, 8–b, 9–c. Play Production. This is not an elective course. It is an advanced laboratory course in the actual staging and presenting of plays by standard authors. Members of the course are chosen by competitive trial test, and credit is given both for acting and for constructive work in the technical phases of production. Associate Professor Hennessy.

1 to 3 credits.

COURSES OPEN TO SOPHOMORES

25–a, 26–b. Advanced Composition. In the fall term, short papers reproducing impressions of daily life; in the winter term, exposition. Weekly individual conferences. Assistant Professor Towle.

Prerequisite: Freshman Composition or its equivalent. Required of students majoring in English. Elective for Sophomores, Juniors, and Seniors. 3 lectures or recitations; 3 credits.

27–c. News Writing. A practical study of the preparation of articles for newspapers and magazines. It is for all whose vocations will demand frequent writing for publication, and it is a preparation in part for those who intend to take up newspaper work after graduation. It does not cover the entire field of journalism, but the student will be instructed in the duties of a reporter and be given constant practice in writing news stories. Professor Scudder.

Elective for those who have attained a grade of 75 or higher in English 1–a, 2–b, 3–c. 3 lectures or recitations; 3 credits.

28–a, 29–b, 30–c. Survey of American Literature. Lectures and extensive outside reading. Professor Scudder.

Elective for Sophomores, Juniors, and Seniors. 3 lectures or recitations; 3 credits.

31–b, 32–c. English Literature of the Restoration. The period from Dryden to Swift. Special attention will be given to the English social and political life of the period in its connection with literature. Consideration will be given, also, to the early history of journalism and of English literary criticism. One hour of the week will be devoted

to round-table discussion with small groups. Assistant Professor Towle.

Elective for Sophomores, Juniors, and Seniors. 3 lectures or recitations; 3 credits. (Not given in 1933–34.)

33–b, 34–c. Victorian Prose. Representative readings in the non-fictional prose of distinguished British writers of the period, with emphasis upon their contribution to the thought of their times. Macaulay, Newman, Carlyle, Arnold, Pater, and their contemporaries. Professor Richards.

Elective for Sophomores, Juniors, and Seniors. 3 lectures or recitations; 3 credits.

35–c. Johnson and His Circle. Boswell, Johnson and their time. Professor Scudder.

Elective for Sophomores, Juniors, and Seniors. 3 lectures or recitations; 3 credits. (Not given in 1933–34.)

36–c. Pope and His Contemporaries. The literature of the first half of the eighteenth century. Assistant Professor Schoedinger.

Elective for Sophomores, Juniors, and Seniors. 3 lectures or recitations; 3 credits.

37–c. The Bible as Literature. A study of various literary types found in the Bible. Emphasis is placed especially on the Old Testament. Biblical history and geography are studied merely as a background for the literature of the Bible. Assistant Professor Hills.

Elective for Sophomores, Juniors, and Seniors. 3 lectures or recitations; 3 credits.

38–c. John Ruskin. The reading of selected essays by Ruskin which bear upon the literary, artistic and social problems of the present day. Professor Richards.

Elective for Sophomores, Juniors, and Seniors. 3 lectures or recitations; 3 credits.

39–a. Modern British Poetry. A study of British poetry written since 1900. Assistant Professor Hills.

Elective for Sophomores, Juniors, and Seniors. 3 lectures or recitations; 3 credits.

40–a. Modern American Poetry. A study of American poetry written since 1900. Assistant Professor Hills.

Elective for Sophomores, Juniors, and Seniors. 3 lectures or recitations; 3 credits. (Not given in 1933–34.)

41–a, 42–b. Non-Dramatic Elizabethan Poetry. A study of the English Renaissance in non-dramatic poetry and its development throughout the century. Special attention given to Spenser's *Færie Queene.* Professor Richards.

Open to Sophomores, Juniors, and Seniors. 3 lectures or recitations; 3 credits.

43–b, 44–c. Victorian Poetry. A study of English poetry from 1830 to 1900, with special reference to the poetry of Tennyson and Browning. Assistant Professor Schoedinger.

Elective for Sophomores, Juniors, and Seniors. 3 lectures or recitations; 3 credits. (Not given in 1933–34.)

45–a, 46–b. Mediaeval and Elizabethan Drama. A survey of the English Drama, exclusive of Shakespeare, from its beginnings to the closing of the theatres. Professor Scudder.

Elective for Sophomores, Juniors, and Seniors. 3 lectures or recitations; 3 credits.

47–a, –b, –c. Public Speaking. Vocal interpretation of thought; technique of phrasing ideas; intensive practice in the use of time, change in pitch, emphasis, and inflection of the voice; practice in movement and gesture; coördination of the intellectual and emotional elements with reference to utterance; a foundation course for prospective business men, teachers, and candidates for the various professions dependent upon a college training. Assistant Professor Cortez.

Elective for Sophomores, Juniors, and Seniors. 3 lectures or recitations; 3 credits.

48–c. Advanced Public Speaking. Intensive drill and individual practice in the technique and delivery of various types of speeches. By arrangement, students will be given a reasonable amount of individual attention in speech conferences. Students must secure permission of the instructor before enrolling for this course. Assistant Professor Cortez.

Prerequisite: English 47–a, b, c, or its equivalent. Sections are limited to 16 students. Elective for Sophomores, Juniors, and Seniors. 3 lectures or recitations; 3 credits.

49–c. Oral Reading. The art of reading from the page; expressive reading of lyrics and other types of literature; platform reading for entertainment and story-telling; stage presence; drill in interpretation in terms of conception of thought; declamation for various programs.

Students must secure permission of the instructor before enrolling for this course. Assistant Professor Cortez.

Prerequisite: English 47–a, b, c, or its equivalent. Limited to 16 students. Elective for Sophomores, Juniors, and Seniors. 3 lectures or recitations; 3 credits.

COURSES OPEN TO JUNIORS

50–a. Principles of Argumentation. Nature of argumentation and debate; the proposition and its main issues, sources and tests of evidence; briefing, elements of analysis and tests of reasoning; a minute study of the most common fallacies in argumentation; refutation; exhibition debates. Assistant Professor Cortez.

Lectures, discussions, reports. Elective for Juniors and Seniors, and Sophomores by permission. 3 lectures or recitations; 3 credits.

52–b. Varsity Debating. Open to upper classmen only. Admission by try-out. Assistant Professor Cortez.

3 lectures or recitations; 2–6 credits.

53–a. The Short Story. A study in the technique of writing short stories; criticism of representative short stories; extensive practice in writing. Assistant Professor Towle.

Prerequisite: English 25–a. 3 lectures, recitations, or conferences; 3 credits. Admission by consent of instructor.

54–a, 55–b, 56–c. Advanced American Literature. A series of studies in special fields, the subjects to be announced. For 1933–1934 the subjects are: The American Novel, The American Renaissance, The American Short Story. Professor Scudder.

Elective for Juniors, Seniors and graduate students. 3 lectures or recitations; 3 credits.

57–b, 58–c. The English Romantic Poets. A study of the poetry of Wordsworth, Coleridge, Scott, Byron, Shelley, and Keats, and of the causes and characteristics of the romantic movement. Assistant Professor Towle.

Elective for Juniors, Seniors, and graduate students. 3 lectures or recitations; 3 credits.

59–a, 60–b. The English Novel in the Eighteenth Century. The novel from Defoe through the Gothic Romance. There will be lectures and constant outside reading. Assistant Professor Schoedinger.

Elective for Juniors and Seniors. 2 lectures or recitations; 3 credits.

61–a, 62–b. Milton. A detailed study of Milton's minor poetry and *Paradise Lost.* Consideration is also given to the social, political and religious history of Milton's day as reflected in his life and poetry. Professor Scudder.

Elective for Juniors, Seniors and graduate students. 3 lectures or recitations; 3 credits.

63–a, 64–b. The English Novel in the Nineteenth Century. A study of the novel from Jane Austen to Thomas Hardy. There will be lectures, recitations, and constant reading. Professor Scudder.

Elective for Juniors, Seniors and graduate students. 3 lectures or recitations; 3 credits. (Not given in 1933–34.)

65–b, 66–c. English Literature from 1600 to 1660. "Metaphysical" and "Cavalier" poetry, from Donne and Jonson to the Restoration; prose, from Bacon to Dryden. The drama and the works of Milton are not included. Assistant Professor Towle.

Elective for Juniors, Seniors and graduate students. 3 lectures or recitations; 3 credits.

67–a, 68–b, 69–c. Shakespeare's Plays. A critical study of the major histories, comedies, and tragedies—Shakespeare as poet and as dramatist. Associate Professor Hennessy.

Elective for Juniors, Seniors and graduate students. 3 lectures or recitations; 3 credits.

70–a. Dramatic Interpretation. An elementary course in the fundamentals of acting and play producing. A laboratory course in which theory is taught through constant practice drill. Designed particularly for prospective teachers of English. Associate Professor Hennessy.

Elective for Juniors and Seniors. 3 lectures or recitations; 3 credits.

71–c. An Introduction to Drama. A comprehensive survey of the field of drama, beginning with the drama of Greece and ending with that of Ibsen. Associate Professor Hennessy.

Elective for Juniors, Seniors and graduate students. 3 lectures or recitations; 3 credits.

72–c. Contemporary Drama. Modern British and Continental drama from Ibsen to the present. Theories, types and developments. Associate Professor Hennessy.

Elective for Juniors, Seniors and graduate students. 3 lectures or recitations; 3 credits. (Not given in 1933–34.)

90–b, 91–c. Appreciation of Art. The nature of art and the ideals of beauty of art in architecture, sculpture, and painting as illustrated by representative masterpieces from the Greek, Roman, Gothic, Renaissance, and modern periods. Lectures, assigned readings, and the study of art prints. Associate Professor Hennessy.

Elective for Juniors and Seniors with the consent of the instructor. 3 lectures or recitations; 3 credits.

COURSES OPEN TO SENIORS

75–a, 76–b. The English Language. A study of the origin and growth of the English language. First term, Old English; second term, Middle and Modern English. Professor Richards.

Open to Seniors and graduate students. For English majors, 75–a is required. 3 lectures or recitations; 3 credits.

77–b, 78–c. Chaucer. A study of Chaucer's life and times, and a reading of his works. First term, his minor poems; second term, *The Canterbury Tales*. Professor Richards.

Open to Seniors and graduate students. Prerequisite: English 75–a or 76–b. 3 lectures or recitations; 3 credits.

79–a, 80–c. The Teaching of High School English. The course is especially designed for those who major in English and are planning to become teachers of English. It offers training in the teaching of oral and written composition, and in poetry, prose, fiction, the essay, and drama. The state requirements in English are throughly reviewed. New Hampshire and Massachusetts schools are visited and the teaching of English observed in these institutions. Special tutoring of Freshmen students who are deficient in English is also a part of this course. A student can receive credit for two terms only. Associate Professor Smith.

Prerequisites: English 3–c and Education 40–c. Elective for Seniors. 3 lectures or recitations; 3 credits.

SERVICE COURSE

101–a. Expository Writing. Practice in the writing of reports and bulletins pertaining to technical subjects. Mr. Webster.

Prerequisite: English 3–c. Required of all Seniors in the College of Agriculture and in Civil, Electrical and Mechanical Engineering. No others admitted except by special permission. 2 lectures or recitations; 2 credits.

ENTOMOLOGY

WALTER C. O'KANE, *Professor*
JAMES G. CONKLIN, *Instructor*

NOTE.—Work in the Department of Entomology is largely individualized. So far as possible each student is permitted to choose the topics to which he will give special attention. This applies to each course offered by the department. Laboratory work may be done at any time that the laboratory is open. Reference books are issued from the department library at any time. Lecture periods are occupied largely with discussion, in which students participate.

PROFESSIONAL TRAINING.—The Department of Entomology is prepared to offer professional training in Entomology. For adequate training a broad foundation as well as thorough specialization is necessary. To accomplish this the period of training should extend beyond the regular four years of undergraduate college work. Students who desire to specialize in Entomology are requested to consult the head of the department in order to plan an adequate and comprehensive sequence of studies.

1–a. Principles of Economic Entomology. The relation of the structure and classification of insects to methods of insect control. The preparation and application of insecticides. Spray machinery and appliances. Professor O'Kane and Mr. Conklin.

Required of Sophomores in Agriculture. Elective for Sophomores, Juniors and Seniors in other courses. 3 lectures; 1 laboratory; 4 credits.

2–a. Insects of Orchard and Garden. The application of methods of insect control to typical injurious species. Studies in the life histories and habits of important insect pests of orchard, garden and certain field crops. Adapted especially for students in Horticulture and in General Agriculture. Professor O'Kane.

Prerequisite: Entomology 1–a. Required of Juniors in Horticulture. Elective for other Juniors and Seniors. 2 lectures; 1 laboratory; 3 credits. (Given in alternate years beginning with 1933–34.)

3–b. Insects of Domestic Animals. The insect enemies of domestic livestock; the life histories, habits and means of control. Adapted especially for students in Animal Husbandry. Professor O'Kane.

Prerequisite: Entomology 1–a. Required of Seniors in Animal Husbandry. 2 lectures; 1 laboratory; 3 credits. (Given in alternate years beginning with 1934–35.)

4–c. Household Insects. Medical Entomology. The life histories, habits and means of control of insects of the household and of stored products. The relation of insects to disease. Adapted especially for students in Home Economics. Professor O'Kane.

Required of Seniors in Institutional Management. Elective for Sophomores, Juniors and Seniors. 2 lectures; 1 laboratory; 3 credits.

5–a, 6–b, 7–c. Advanced Economic Entomology. Detailed studies of problems involved in applied entomology. The literature of economic entomology. Investigational methods. Practice in arranging projects. Original investigations in the life history and habits of one or more injurious species. Adapted for advanced students. Professor O'Kane and Mr. Conklin.

Required of students specializing in Entomology. Open to students only by permission of head of department. Hours and credits to be arranged.

8–a, 9–b, 10–c. Advanced Economic Entomology. Continuation of Entomology 5–a, 6–b, 7–c, for students who are specializing in the subject. Professor O'Kane and Mr. Conklin.

Open to students only by permission of head of department. Required of students specializing in Entomology. Hours and credits to be arranged.

13–c. Forest Insects. Studies in the life histories and habits of the more destructive forest insects and the means of their control. Especially adapted for students in Forestry. Professor O'Kane.

Prerequisite: Entomology 1–a. Required of Juniors in Forestry. Elective for others. 2 lectures; 1 laboratory; 3 credits.

For courses primarily for graduate students see Catalog of the Graduate School.

FORESTRY

KARL W. WOODWARD, *Professor*
CLARK L. STEVENS, *Assistant Professor*

1–c. Principles of Forestry. This course is intended to meet the needs of students who desire to obtain a general knowledge of the principles of forestry. The value of forests, their protection, their utilization, their improvement and regeneration, are discussed with special reference to New Hampshire conditions. Professor Woodward.

Required of all Freshmen in Agriculture except Forestry. 3 lectures; 1 laboratory; 3 credits.

2–c. Principles of Forestry. The same as Forestry 1-c, except that no laboratory work is included. Professor Woodward.

Elective for any student. 3 lectures; 2 credits.

3–a. Dendrology. This course deals with the characteristics of our native tree species, and with the identification of trees in the field and from specimens. Additional practice in identifying northern species is given during Summer Camp. Assistant Professor Stevens.

Required of Freshmen in Forestry. Elective for others. 2 lectures; 1 laboratory; 3 credits.

4–b. Wood Identification. A study of the uses and grades of lumber, the physical properties and the identification of the commercially important woods. Each student is required to provide himself with a hand lens. Assistant Professor Stevens.

Required of Freshmen in Forestry. Elective for others. 2 lectures; 1 laboratory; 3 credits.

5–c. Forest Improvements. Lectures on the methods of construction and the costs of the more important structures listed as improvements of the forest. Includes roads, trails, simple bridges, logging railroads, telephone lines, flumes, slides, ranger cabins, lookout stations, etc. Assistant Professor Stevens.

Required of Freshmen in Forestry. Elective for others, with approval of the instructor. 2 lectures; 1 laboratory; 3 credits. (Formerly given as 25–c.)

6–a, 7–b, 8–c. Forest Mensuration. Includes practice in forest mapping; measurement of forest products; timber cruising; and studies of growth and yield of the commercial tree species of New England. The course is continued during Summer Camp. Each student is required to provide himself with a box compass. Assistant Professor Stevens.

Required of Juniors in Forestry. Elective for others with approval of the instructor. Prerequisites: Forestry 3–a, Civil Engineering 7–a. 2 lectures; 1 laboratory; 3 credits. (Given in alternate years, commencing with 1933–34.) (Formerly given as 26–a, 8–b, 9–c.)

9–a, 10–b, 11–c. Silviculture. The art of producing and tending a forest. Includes seed collection, storage and testing; nursery practice; forest plantations; systems of natural regeneration; intermediate cuttings; forest protection; and discussion of silvicultural practice in the most im-

portant forest regions of the United States. Hawley's "Practice of Silviculture" and Toumey's "Seeding and Planting" are used as texts. Assistant Professor Stevens.

Required of Sophomores in Forestry. Elective for others with approval of the instructor. 2 lectures; 2 laboratories; 4 credits. (Given in alternate years, commencing with 1934–35.) (Formerly given as 6–a, 24–b, 7–c.)

13–b, 14–c. Forest Utilization. Methods and costs of logging and milling in the chief lumber-producing regions of the United States; various types of forest products, their manufacture and marketing together with special problems of the lumber business. Emphasis is placed upon New England conditions. Attendance on instruction trips is required for credit in this course. Bryant's "Logging" and Brown's "Forest Products" used as texts. Assistant Professor Stevens.

Required of Juniors in Forestry. Elective for others. 3 lectures; 3 credits. (Formerly given as 16–b, 17–c.)

15–b, 16–c, 17–a. Thesis. Work to be arranged according to the needs of individual students. Professor Woodward and Assistant Professor Stevens.

Prerequisites: Forestry 3–a, 11–c and 8–c. Required of Juniors and Seniors in Forestry. 2 lectures; 2 laboratories; 3 to 5 credits. (Formerly given as 13–b, 14–c, 15–a.)

18–b, 19–c. History of Forestry. The history of forestry, its development and present status in different countries; the work of the Federal Government and its management of the national forests; state forest policies; the lumber industry in the United States. Lectures and special readings. Professor Woodward.

Required of Seniors in Forestry. 3 lectures; 3 credits.

20–a, 21–b. National Forest Administration. The principles and methods employed on the national forests. "The Use Book" is used as a text. Professor Woodward.

Prerequisites: Forestry 3–a, 11–c, and 8–c. Required of Seniors. 3 lectures; 3 credits.

22–a, 23–b, 24–c. Forest Management. The management of woodlots and large forest tracts for the purpose of gaining the largest immediate and future returns; and the preparation of working plans to coördinate the lumbering, protection, improvement, and regeneration of forests so as to make them yield the highest net returns. Professor Woodward.

Prerequisites: Forestry 3–a, 11–c, 8–c, 13–b, 14–c. Required of Seniors in Forestry. 2 lectures; 1 laboratory; 3 credits. (Formerly given as 10–a, 11–b, 12–c.)

25–s. Summer Camp. A six weeks' course at the Swift River Camp, Passaconaway, N. H. Lectures and field work on the following projects, a forest survey of a large area of the White Mountain National Forest; silvical studies of the northern forest types; fish and game in the national forests; dendrology. There is opportunity for instruction by officers of the U. S. Forest Service, and from three to six days are spent under their supervision on such work as fighting forest fires, building trails, telephone lines, etc. Each student is required to act as cook for a part of the course, and the details of running the camp and directing the survey are handled by the students as part of the instruction. Assistant Professor Stevens.

Required of Juniors in Forestry. Prerequisites: Forestry 5–c, 8–c, Home Economics 65–b. 3 lectures; office and field work; 8 credits. (Given in alternate years, beginning in 1934.) (Formerly given as 22–s.)

26–a. Silvics. This course considers the effect of the environment of the forests: the factors which influence the growth of trees and stands. The field work consists of practice in measuring the intensity and duration of the environmental factors, and of detailed as well as general studies of forest vegetation. A part of the field work is carried out during Summer Camp. Toumey's "Foundations of Silviculture" is used as a text. Assistant Professor Stevens.

Required of Juniors in Forestry. Elective for others with approval of the instructor. Prerequisite: Forestry 3–a. 2 lectures; 2 laboratories; 4 credits. (Formerly given as 5–a.)

27–a. Farm Woodlot Problems. This course is intended primarily to cover the methods of teaching farm forestry in agricultural high schools, but may be changed to meet the needs of the individual student. Professor Woodward.

Prerequisite: Forestry 1–c. Required of Seniors in Teacher Training. (Given in alternate years beginning in 1933–34.) 2 lectures; 1 laboratory; 3 credits. (Formerly given as 23–a.)

GEOLOGY

*George W. White, *Assistant Professor*
Theodore Ralph Meyers, *Instructor*
Donald H. Chapman, *Instructor*
John A. Brown, *Instructor*

1–a, 2–b, 3–c. Principles of Geology. The study of the earth and its history. A consideration of the forces that have operated to produce land forms and structures, and a discussion of the materials of the earth's crust. These facts will then be applied to the interpretation of past geologic events, together with their effect on the development of life forms. Laboratory study of various land forms of the United States by means of maps; of common minerals and rocks of the earth's crust; and of the more common fossils will closely parallel the class work. Occasional field trips are taken to near-by points of geologic interest. Assistant Professor White, Mr. Meyers, Mr. Chapman and Mr. Brown.

Freshman course. 3 lectures; 1 laboratory; 4 credits.
This is a year-course when required of or elected by students in the College of Liberal Arts.

25–a, 26–b, 27–c. Structural and Dynamic Geology. An advanced study of geologic structures, physiographic as well as crustal. The conditions affecting their formation are especially considered. The more important hypotheses of the origin of the earth and of continents and oceans are taken up. Structures found in New England and especially in New Hampshire are emphasized. Field trips to the White Mountains, the Atlantic coast, and to the igneous and metamorphic areas of the southeastern part of the state are used to illustrate principles studied in the classroom. Assistant Professor White.

Prerequisite: Geology 3–c. Sophomore course. 3 lectures or recitations; 1 laboratory; 4 credits.

50–a, 51–b, 52–c. Mineralogy. A study of the minerals that make up the earth's crust. The first term will be devoted to a study of crystals, by means of models and specimens showing well defined crystals. The second term will be given to a study of minerals and their determination by means of physical characteristics. The third term will continue the work of the second term and will take up in addition the aggregation of minerals to form rocks. Assistant Professor White.

Prerequisite: One course in Geology and at least one year's work in Chemistry. Junior course. 2 lectures or recitations; 1 laboratory; 3 credits.

* On leave of absence, 1932–33.

75–a, 76–b, 77–c. Economic Geology. A discussion of the metals, their ores, and their occurrence; the types of coal and their occurrence in the coal fields of the United States; petroleum, the structures in which it is found, and the distribution of the oil fields, especially those of the United States. Lime, cement, building stones and related products will be treated briefly. Assistant Professor White and Mr. Meyers.

Prerequisite: Geology 27–c. Junior or Senior course. 3 lectures or recitations; 3 credits. Given in alternate years. (Not given in 1933–34.)

78–a, 79–b, 80–c. Paleontology. A study of the history, development, and morphology of the various groups of plants and animals as recorded by fossils found in the rocks of the earth's crust. More attention will be given to the development of animals than to plants. Mr. Meyers and Mr. Brown.

Prerequisites: Zoölogy 3–c and Geology 3–c. Junior or Senior course. 2 lectures or recitations; 3 credits. Given in alternate years. (Given in 1933–34.)

81–a, 82–b, 83–c. Geological Problems. A study of special problems by means of conferences, assigned readings and field work. The work will be fitted to the needs of the individual students. Assistant Professor White, Mr. Meyers, and Mr. Chapman.

Prerequisite: Permission of the instructor. Credits to be arranged.

SERVICE COURSES

100–a. Building Stones and Clay Products. A study of the origin and occurrence of the various types of building stones. A consideration of clays, and the heavy-wares of constructional importance manufactured from them. Assistant Professor White.

Required of Sophomores in Architecture. 1 lecture or recitation; 1 laboratory; 2 credits.

101–b. General Geology. A general introductory course in physical geology, in which the structures and materials of the earth's crust are discussed, together with the forces which have produced and altered them. Mr. Chapman.

Required of Sophomores in Agriculture, Freshmen in Chemistry, and Juniors in Civil Engineering. Open to Liberal Arts students by permission only. 3 lectures or recitations; 3 credits.

HISTORY

DONALD C. BABCOCK, *Professor*
ARTHUR W. JONES, *Assistant Professor*
ALLAN B. PARTRIDGE, *Assistant Professor*
PHILIP M. MARSTON, *Assistant Professor*
GIBSON R. JOHNSON, *Assistant Professor*
WILLIAM YALE, *Instructor*
EVELYN BRANNEN, *Assistant*

In the courses in History an important place is given to historical reading carried on in the reference room. In some cases a considerable part of the work is written.

The statements as to prerequisites, etc., below are for Liberal Arts students. Agriculture and Technology students should consult the head of the department.

COURSES OPEN TO FRESHMEN

The following courses constitute basic courses, required of students majoring in history, and recommended for all students before taking other courses in history or the social sciences. The aim throughout is orientation, the acquiring of a point of view and a proper feeling for the social evolution of the race.

1–a, 2–b, 3–c. Introduction to Contemporary Civilization. This course is designed to give the student a background which will enable him to understand the problems of human society rather than the study of specific historic events. It therefore takes up prehistoric social evolution as well as historic. It aims at the historic explanation of how modern life has come to be what it is, and at an appreciation of the problems of contemporary society. Professor Babcock, Assistant Professor Marston, Assistant Professor Johnson, Miss Brannen.

Elective for Freshmen. Required of students majoring in History. 3 lectures or recitations; 3 credits. *This is a year-course when required of or elected by students in the College of Liberal Arts.*

4–a, 5–b, 6–c. Introduction to History. A survey of the main events, outstanding characters, and the chronological framework of history from the earliest recorded times to the beginning of the World War. Some supplementary material aiming at the social interpretation of history is included, and attention is given to intellectual movements. Assistant Professor Jones and Mr. Yale.

Elective for Freshmen. Required of students majoring in History. 3 lectures or recitations; 3 credits. *This is a year-course when required of or elected by students in the College of Liberal Arts.*

COURSES NOT OPEN TO FRESHMEN

History courses subsequent to those designed especially for the Freshman year are arranged in two groups, as indicated below. Sophomores taking any of these courses should choose one or the other of the two groups, and follow it, if further work is done in history, through six term courses.

It is suggested, though the student is free to choose, that Group I should be elected by those whose major interest is in Accounting, Economics, Education, Home Economics, Physical Education, Political Science, Spanish, or Zoölogy. Those particularly interested in English, French, German, Latin, Music, Psychology, or Sociology are likely to find Group II more useful to them.

It is permissible to take work in both groups at the same time.

GROUP I

25–a, 26–b, 27–c. The United States since 1800. Beginning with the death of Washington, the great forces of nationalism, expansion, sectionalism, and democracy are traced up to the present time, with reference to as many aspects of our national life as possible, including literary, artistic, scientific, and everyday life-ways, as well as the more usual political and economic events. Professor Babcock.

Elective for Sophomores, Juniors and Seniors. 3 lectures or recitations; 4 credits.

50–a, 51–b, 52–c. Colonial and Revolutionary American History. A study of colonial beginnings in America, national rivalries, the English colonies, the Revolution, and our national life to 1800. Assistant Professor Marston.

Elective for Juniors and Seniors, and for Sophomores who have had or are taking 25–a, 26–b, or 27–c. 3 lectures or recitations; 3 credits.

56–a, 57–b, 58–c. Latin-American History. A survey of the Iberian peninsula and its history as a background, the Spanish and Portuguese colonial epoch, the separation from Europe, the national characters and resources of the Latin-American states, and their relations with our country. Assistant Professor Partridge.

Elective for Juniors and Seniors, and for Sophomores by permission. 3 lectures or recitations; 3 credits.

GROUP II

28–a. The Ancient Orient. The story of the first civilization and the cultural accumulations of ancient times previous to Grecian civilization. Assistant Professor Partridge.

Elective for Sophomores, Juniors and Seniors. 3 lectures or recitations; 3 credits.

29–b, 30–c. History of Greece. The aim is to bring home to the student the richness of content of Grecian civilization, and its cultural value for the modern world. Assistant Professor Partridge.

Elective for Sophomores, Juniors and Seniors. 3 lectures or recitations; 3 credits.

31–a, 32–b, 33–c. History of Rome. The year's work carries the story of Rome from its legendary origins and pre-literary foundations to the death of Justinian in 565. Assistant Professor Partridge.

Elective for Sophomores, Juniors and Seniors. 3 lectures or recitations; 3 credits. (Not offered in 1933–34.)

59–a, 60–b, 61–c. Medieval History. This survey of the pageant of the Middle Ages is divided by terms as follows: 59–a, from 565 to 962; 60–b, from 962 to 1190; 61–c, from 1190 to 1320. Assistant Professor Jones.

Elective for Juniors and Seniors, and for Sophomores by permission. 3 lectures or recitations; 3 credits.

62–a, 63–b, 64–c. The Period of the Renaissance. The Renaissance as a regathering of past values and as a forward movement introducing the Modern Period. Assistant Professor Jones.

Elective for Juniors and Seniors, and for Sophomores by permission. 3 lectures or recitations; 3 credits. (Not offered in 1933–34.)

65–a, 66–b, 67–c. Modern European History. From about 1500 to 1914, this course takes up the history of the modern European states and of Europe as a whole in its expansive development and world leadership. Eastern Europe and Asia and Africa are studied as backgrounds for the colonial history of modern times. Assistant Professor Jones.

Elective for Juniors and Seniors, and for Sophomores by permission. 3 lectures or recitations; 3 credits.

Elective without Regard to Groups I and II

68–a, 69–b, 70–c. History of England. The division by terms is as follows: 68–a, to 1066; 69–b, to 1327; 70–c, to 1558. Assistant Professor Partridge.

Elective for Juniors and Seniors, and for Sophomores by permission. 3 lectures or recitations; 3 credits. (Not offered in 1933–34.)

71–a, 72–b, 73–c. History of England. The division by terms is as follows: 71–a, to 1714; 72–b, to 1837; 73–c, since 1837. Assistant Professor Partridge.

Elective for Juniors and Seniors, and for Sophomores by permission. 3 lectures or recitations; 3 credits.

78–a, 79–b, 80–c. Recent World History. A study of the World War, its roots, its progress, and its outcome, and of post-war problems and world developments. Mr. Yale.

Elective for Juniors and Seniors by permission of the instructor. 3 lectures or discussions; 3 credits.

81–a, 82–b, 83–c. Seminar in Religious History. Seminar discussions centering around some of the great personalities in Christian history or other socio-religious movements. Professor Babcock.

Open to Juniors and Seniors by permission of the instructor. 3 lectures or discussions; 3 credits.

87–a, 88–b, 89–c. The Interpretation of History. An investigation of some of the ways in which thoughtful persons have viewed the historic process as a whole. The aim is the interpretation of life; the method is to combine philosophy, sociology, and history, with emphasis on the latter. Professor Babcock.

Elective for Juniors and Seniors on consultation with the instructor. 3 lectures or discussions; 4 credits.

HOME ECONOMICS

HELEN F. MCLAUGHLIN, *Professor*
IRMA G. BOWEN, *Assistant Professor*
HELEN W. LEIGHTON, *Instructor*
MARION STOLWORTHY, *Instructor*
GENEVIEVE K. PHILLIPS, *Instructor*
ETHEL L. COWLES, *Instructor.*

CLOTHING AND TEXTILES

1–c. Textiles. A study of textile fibers and materials from the viewpoint of the consumer. Assistant Professor Bowen.

Required of Home Economics Teacher Training Seniors and Extension Training Juniors. Elective for other students. 2 lectures or recitations; 1 credit.

12–a. History of Costume. A survey of the changes that have taken place in the development of costume with consideration of the historical and social periods that have been contributing factors. Assistant Professor Bowen.

Elective for all students. 3 lectures or recitations; 3 credits.

16–a, –b, –c. Weaving. Making of hand-woven rugs and plain or patterned articles. Assistant Professor Bowen.

Elective for all students. Laboratory by arrangement with instructor. Class limited to 10 each term. 1–2 credits.

20–a, 21–b, 22–c. Clothing Selection. Problems in the selection of suitable and becoming clothing. Assistant Professor Bowen.

Required of Home Economics Freshmen. Elective for other students. 3 lectures or recitations; 3 credits.

25–a, –b, –c. Clothing Construction. Students registering for this course choose and carry out projects in dressmaking, millinery and pattern study, according to their individual interests or requirements. The work is conducted by conferences and supervised laboratory periods. Assistant Professor Bowen and Miss Cowles.

Open to any student interested. From 1 to 3 credits may be elected in any one term depending on the projects selected. Home Economics students in Teacher Training or Extension will be required to register for not less than 3 credits during their four years.

26–b. Applied Design. Practical application of the principles of design in making handcraft articles of individual interest. Students retaining finished articles pay cost of materials used. Assistant Professor Bowen.

1 lecture; 1 laboratory; 2 credits.

FOOD AND NUTRITION

52–a. Food Preservation. A study of canning, preserving, pickling and jelly making. Mrs. Stolworthy.

Required of Home Economics Sophomores. Elective for other students. 2 lectures; 2 laboratories; 3 credits.

53–b, 54–c. Foods and Cookery. A study of the nutritive value of foods and their healthful and economical preparation and serving. Mrs. Stolworthy.

Required of Home Economics Sophomores. 2 lectures; 2 laboratories; 3 credits.

58–b. Experimental Cookery. Comparative experimental cookery. Assignments in individual project work. Mrs. Stolworthy.

Elective for Home Economics Juniors and Seniors. 2 laboratories; 2 credits.

60–c. Dietetics. Application of the principles of human nutrition to varying physiological, social and economic conditions. Professor McLaughlin.

Prerequisite: Home Economics 54–c. Required of Home Economics Sophomores. 2 lectures or recitations; 1 laboratory; 3 credits.

61–a. Nutrition. A reading course in current literature of nutrition. Professor McLaughlin.

Required of Institutional Management Seniors. Elective for other Senior Home Economics students. 1 conference; 2 credits.

ELECTIVES OPEN TO OTHER THAN HOME ECONOMICS MAJORS

63–c. Dietetics. Special course given for women students not majoring in Home Economics. Mrs. Stolworthy.

2 lectures; 1 laboratory; 2 credits.

64–a, –b, –c. Food Selection. A study of the principles of human nutrition. Professor McLaughlin.

2 lectures; 2 credits.

65–b. Camp Cookery. A study of the principles of cookery as especially adapted to camp life. Professor McLaughlin.

Elective for Forestry students and majors in Physical Education for Women. (Given in alternate years for men or women—given in 1933 for women.) 1 lecture or recitation; 1 laboratory; 1 credit. Class limited to 20.

66–c. Elementary Meal Preparation. Each laboratory results in the preparation and serving of a simple meal, suitable for luncheon or dinner. Mrs. Stolworthy.

Elective for Liberal Arts women who have not taken Home Economics 69–c. 1 lecture or recitation; 1 laboratory; 1 credit.

67–a. Jelly Making and Holiday Novelties. The study and preparation of jellies, candies, and special foods. Mrs. Stolworthy.

Elective for students not majoring in Home Economics. 1 lecture or recitation; 2 laboratories; 2 credits.

68–b, 69–c. Food Selection and Preparation. A general course in the healthful and economical selection and preparation of foods. Mrs. Stolworthy.

Elective for students not majoring in Home Economics. 67–a, 68–b, 69–c may be taken consecutively or separately. 1 lecture or recitation; 2 laboratories; 2 credits.

THE FAMILY

71–a, or –b, or –c. Project in Child Development. Conferences and laboratory work with children at the Durham Kindergarten. Mrs. Phillips.

Prerequisite: Education 31–a. 1 conference; laboratory and outside reading; 3 credits.

71.6–b, 71.7–c. Advanced Project in Child Development. Conferences and laboratory work with children at the Durham Kindergarten. Mrs. Phillips.

Prerequisite: Home Economics 71–a, –b, –c. 1 conference; laboratory and outside reading; 2–3 credits.

72–c. The Family and the Child. Consideration of the effects of changing society upon home and family life. Professor McLaughlin.

Required of Home Economics Juniors. Elective for Liberal Arts Juniors and Seniors. 3 lectures or recitations; 3 credits.

HOME MANAGEMENT

82–a, –b, –c. Home Management. A study of the organization of the household as a home, and of the principles involved in its management. Miss Cowles.

Required of Home Economics Sophomores. Elective for other students. 3 lectures or recitations; 3 credits.

83–a. Home Care of the Sick. Emergency treatment of minor injuries and the care of the sick at home. Mrs. Stolworthy.

Required of Home Economics Seniors. Elective for other students. 2 lectures or recitations; 2 credits.

84–c. The American Home. The evolution of American housing from the time of the early settlers to the present. Discussion of special

problems in modern interior decoration and the use of period furniture. Assistant Professor Bowen.

Required of Home Economics Sophomores. Elective for other students. 3 lectures or recitations; 3 credits.

88–a, –b, –c. Home Management House. Practice in home-making; managerial and dietetic problems through 8–10 weeks' residence in the Home Management House. Miss Cowles.

Prerequisites for Home Economics majors: Home Economics 52–a, 60–c and 82–a, b, or c. Class limited to 8 each term. 88–a, b, c, required of Home Economics Seniors. Elective for other women students without prerequisites by permission of the head of the department. First places will be given to Home Economics majors. Conference and laboratory; 4 credits. For students who elect course: Conference and laboratory; 3 credits.

INSTITUTIONAL MANAGEMENT

91–a, 92–b. Institutional Management. A study of the organization, equipment, and management of typical institutions and of the buying, planning, preparing, and serving of meals for large groups. Field trips to study equipment and management of institutions of different types are included in the course. Mrs. Leighton.

Required of Seniors in Institutional Management Curriculum. 2 lectures or recitations; 2 credits.

94–a, 95–b. Institutional Practice. Practical experience of different types in the kitchens and serving rooms of the University Commons. Mrs. Leighton.

Required of Seniors in Institutional Management Curriculum. 5 laboratories; 2 credits.

HOME ECONOMICS EDUCATION

100–a, 101–b, 102–c. Survey of Home Economics. Vocational opportunities for women. The relation of Home Economics to the education of women. Vocations open to women.

Required of Home Economics Freshmen. Elective for other students. 1 lecture or recitation; 1 credit. Formerly given as 101–b and 102–c. *This is a year-course when required of or elected by students in the College of Liberal Arts.*

103–a, 104–b, 105–c. Project in Home Economics. This course provides opportunity for the working out by the student of some project in home economics that supplements the work in the required courses. Home Economics staff.

Elective for Home Economic Juniors and Seniors. Conference and assignments; 1–3 credits.

106–a. Home Economics Education. A consideration of home economics courses as presented in the elementary and high schools. Professor McLaughlin and other staff members.

Required of Seniors in Home Economics Teacher Training and Extension Curricula. 4 lectures or recitations; 4 credits.

107–b. Home Economics Teaching. Supervised cadet teaching in selected high schools in the state. Professor McLaughlin.

Required of Seniors in Home Economics Teacher Training Curriculum. Nine weeks or more practice teaching. 18 credits.

108–c. Home Economics Education. A continuation of Home Economics 106–a, basing discussions on the experience of students during the cadet teaching of the previous term. Professor McLaughlin and other staff members.

Required of Seniors in Home Economics Teacher Training Curriculum. 4 lectures or recitations; 4 credits.

109–a. Demonstration Course. The organization and practical application of demonstration methods in the field of Home Economics. Home Economics Staff.

Elective for Junior and Senior Home Economics Majors. 2 lectures or recitations; 1 credit.

HORTICULTURE

GEORGE F. POTTER, *Professor*
J. RAYMOND HEPLER, *Associate Professor*
L. PHELPS LATIMER, *Assistant Professor*
JAMES MACFARLANE, *Instructor*
HENRY S. CLAPP, *Instructor*

1–c. Vegetable Gardening. A study of garden soils, testing and planting of seeds, selection of varieties with reference to conditions in the State, construction and management of hotbeds and cold frames, and the fertilization, cultivation and irrigation of the garden. Associate Professor Hepler.

Required of Sophomores in Agriculture who do not take Hort. 3–c. 2 lectures; 1 laboratory; 3 credits.

2–a. Floriculture: Greenhouse Construction and Management. This course treats of modern methods of greenhouse work and the more

important plants grown under glass. Varieties, culture, marketing, and enemies of greenhouse plants are studied. Each student is required to do practical work in propagating, potting, watering plants and ventilating greenhouses. A study is made of the history and development of different types of greenhouses, including methods of heating and general management. Mr. Macfarlane.

Elective for any student. 2 lectures; 1 laboratory; 3 credits.

3–c. Elementary Pomology. A brief consideration of some fundamental principles of fruit growing concerning choice of orchard site, adaptability of soil for fruit growing, choice of varieties, planting of orchards, soil management, pruning, spraying and thinning. Harvesting and marketing are very briefly discussed. Professor Potter.

Required of Sophomores in Agriculture who do not take Hort. 1–c. 2 lectures; 1 laboratory; 3 credits.

4–c. Viticulture and Small Fruit Culture. A comprehensive study of the grape and small fruits, including the strawberry, raspberry, blackberry, currant and gooseberry. Each fruit is studied with reference to its history, propagation, planting, pruning, injurious insects and diseases, picking and marketing. Assistant Professor Latimer.

Elective for any student. 2 lectures; 1 laboratory; 3 credits.

5–a. Systematic Survey of Fruits and Vegetables. Different subject matter is presented in alternate years. In the even year the important species of fruits and nuts of temperate regions and their botanical relationships are studied. The student is expected to become familiar with the history, distribution, and merits of each species, and the horticultural varieties developed from it. In the odd year similar material concerning different species of vegetables are presented. Associate Professor Hepler and Assistant Professor Latimer.

Prerequisites: Botany 1–a and Horticulture 1–c or 3–c. Required of Seniors in Horticulture. 2 lectures; 2 credits.

6–b. Advanced Pomology. A detailed study of fundamental principles and experimental data and their application and relation to orchard problems such as growth and rest period in fruit plants, water requirements, soil management, pruning, fruit bud formation, fruit setting, pollination, thinning, winter injury, and the quality and keeping period of fruits in storage. Assistant Professor Latimer.

Prerequisite: Horticulture 3–c. Required of Seniors in Horticulture who do not elect Horticulture 17–a. Elective for other students. 3 lectures; 3 credits.

7–c. Landscape Gardening: General Principles. A study of the principles involved in ornamental and landscape gardening. Special attention is given to the beautifying of home surroundings. Mr. Clapp.

Elective for any student. 2 lectures; 2 laboratories; 4 credits.

9–b. Floriculture: Conservatory and Decorative Plants. A study of the classification, propagation, and culture of the tropical foliage and flowering plants such as ferns, palms, orchids, etc., for use in the conservatory and home. Mr. Macfarlane.

Elective for any student. 1 lecture; 1 laboratory; 2 credits.

9.5–c. Floriculture: The Outdoor Flower Garden. A study of flowering annuals, herbaceous perennials, bulbs and bedding plants, with instruction in their propagation, culture and use in the beautifying of the home grounds. Lectures, laboratory, and field trips. Mr. Macfarlane.

Elective for any student. 1 lecture; 1 laboratory; 2 credits.

10–b. Evolution and Improvement of Plants. The application of the principles of genetics to agricultural plant breeding. Hybridization and selection are studied as means of improving horticultural varieties of plants. Professor Potter.

Prerequisite: Zoölogy 32–a. Required of Juniors and Seniors in Horticulture. Elective for other students. 2 lectures; 2 credits. (Given in alternate years beginning 1934–35.)

11–b. Vegetable Forcing. A study of special vegetables as grown under glass. Emphasis is placed upon the commercial phases of the work, including varieties, culture, and marketing. Each student is required to grow crops from seeding to maturity. Associate Professor Hepler.

Elective for all students. 2 lectures; 1 laboratory; 3 credits.

12–a, 12.5–b. Horticultural Seminar. A review of the recent horticultural literature and methods of investigational work. Each student is required to prepare and present a term paper on some horticultural topic. Professor Potter and staff.

Required of Seniors in Horticulture. Other students must obtain permission to enroll. 2 lectures; 2 credits.

14–a, 15–b, 16–c. Advanced Horticulture. Subject matter in any phase of horticulture (with laboratory practice if desirable) to meet the needs of special students or groups of students may be taken by arrangement with the head of the department. Professor Potter and staff.

Elective for Juniors and Seniors. Students must obtain permission to register from the head of the department. Hours and credits to be arranged.

17–a. Commercial Vegetable Gardening. This course deals with the management of commercial vegetable gardens. Special attention is given to storing, packing of vegetables for market, their display and judging. Associate Professor Hepler.

Prerequisite: Horticulture 1–c. Elective for all students. 2 lectures; 1 laboratory; 3 credits.

18–a. Landscape Gardening: Plant Materials. The identification of ornamental woody plants as they appear in the fall and early winter and their use in landscape design. Mr. Clapp.

Elective for any student. 1 lecture; 2 laboratories; 3 credits.

18.5–c. Landscape Gardening: Plant Materials. The characteristics of ornamental woody plants as they appear in spring. Mr. Clapp.

Elective for any student. 1 lecture; 2 laboratories; 3 credits.

19–c. Elementary Beekeeping. A study of the life history and habits of honey bees and their adaptation to apiary conditions. The laboratory work includes the assembling and use of hives and hive fittings, and practice in handling bees. Associate Professor Hepler.

Elective for any student. 1 lecture; 1 laboratory; 2 credits.

20–a. Commercial Beekeeping. This course deals with the principles and practices underlying the production of commercial crops of comb and extracted honey. The laboratory work consists of the handling of bees during the fall and winter, the extraction of honey and the preparation for market of extracted honey, comb honey and wax. Associate Professor Hepler.

Elective for any student. 1 lecture; 1 laboratory; 2 credits.

21–c. Supervised Horticultural Experience. Supervised work in orchard, garden, nursery, or greenhouses, April 1st to September 1st. Weekly reports are required. Professor Potter and staff.

Required of all Juniors in the third term of the Junior year. 18 credits.

NOTE.—Students who have previously had this experience may substitute 18 credits for this required course.

22–a. Fruit Judging. A study of the fruit characters and commercial characteristics of the leading varieties of fruits with special reference to those important in New England. The student is required to become proficient in recognizing the varieties on sight and in judging exhibition fruit. Assistant Professor Latimer.

Elective for any student. 3 laboratories; 3 credits.

23–a. Harvesting and Marketing of Fruits. The handling of fruit crops, technicalities of fruit grading, agencies used and problems met in storing, transporting and merchandising the crop, with laboratory practice in actual packing house work. Professor Potter.

Elective for any student. 2 lectures; 1 laboratory; 3 credits.

24–b. Landscape Gardening: Theory of Design. A study of landscape design with special reference to its relation to buildings and grounds. A detailed study will be made of the composition of foundation and screen plantings and of the private garden in its relation to the home and its service features. Mr. Clapp.

Prerequisite: Architecture 50–a or Horticulture 7–a. 2 lectures; 1 laboratory; 3 credits.

25–c. Floriculture: Floral Design. This course is arranged to instruct in the principles and theories of floral design and the use of flowers in the home. To a limited extent, a survey is made of the use of flowers at public functions as in halls and churches. Participation in the actual practice of floral arrangement will be required of each student. Mr. Clapp.

Elective for any student. Registration by permission of the instructor. 1 laboratory; 1 credit.

For courses primarily for graduate students, see Catalog of the Graduate School.

LANGUAGES

CLIFFORD S. PARKER, *Professor*
J. HERBERT MARCEAU, *Associate Professor*
JOHN STEPHEN WALSH, *Associate Professor*
RUDOLF L. HERING, *Assistant Professor*
JULIO BERZUNZA, *Assistant Professor*
PAUL P. GRIGAUT, *Assistant Professor*
JOHN A. FLOYD, *Instructor*
DORIS V. PARADIS, *Assistant*

All courses in Languages are year-courses when required of or elected by students in the College of Liberal Arts.

FRENCH

PROFESSOR PARKER, ASSOCIATE PROFESSOR MARCEAU, ASSISTANT PROFESSOR GRIGAUT, MR. FLOYD

1–a, 2–b, 3–c. Elementary French. Elements of French grammar, reading of simple prose, oral practice, dictation.

5 recitations; 3 credits.

4–a, 5–b, 6–c. Intermediate French. Reading and translation, review of grammar, oral practice, composition.

Prerequisite: French 3–c or its equivalent. Freshmen will be assigned to French 1–a, French 4–a, or French 7–a, on the basis of their showing in the French Placement Examination in Freshman Week. 3 recitations; 3 credits.

7–a, 8–b, 9–c. Masterpieces of French Literature. Prose and poetry of some of the most important writers of the seventeenth, eighteenth and nineteenth centuries, with some attention to the historical and cultural background of French literature; composition and oral practice.

Prerequisite: French 6–c. Freshmen may be admitted to this course on the basis of their showing in the French Placement Examination in Freshman Week. 3 recitations; 3 credits.

10–a, 11–b, 12–c. French Drama. The rise and development of the drama in France with reading and study of plays indicative of the various tendencies from Corneille to the present.

Prerequisite: French 9–c. Freshmen may be admitted to this course on the basis of an exceptionally high grade in the French Placement Examination in Freshman Week. 3 recitations; 3 credits.

13–a, 14–b, 15–c. French Composition and Conversation. The use of written and spoken French is taught by careful attention to pronunciation, composition and grammar.

This course is especially valuable for students who wish to teach French and conduct French clubs. Such students will have the opportunity of coöperating with the instructor in the preparation and presentation of French plays. This course should be taken by every student desiring to obtain departmental recommendation for the teaching of French. Enrollment is limited to twenty students per section. Permission of the instructor or of the head of the department is required before enrollment.

Prerequisite: French 6–c with grade of 75 or better; or French 9–c. 3 recitations; 3 credits.

16–a, 17–b, 18–c. Romanticism and Realism in French Literature of the Nineteenth Century. Prose and poetry of the more important writers, with lectures, outside reading, written reports, and recitations.

Prerequisite: French 9–c or 12–c. 3 recitations; 3 credits.

19–a, 20–b, 21–c. Recent Tendencies in French Literature. Studies of the tendencies in French literature from 1870 to the present. This course is open to a limited number of qualified undergraduates, and to graduate students. Permission of the instructor or of the head of the department is required before enrollment. Conducted largely in French.

Prerequisite: French 12–c, 18–c, or 42–c. 3 recitations; 4 credits.

22–a, 23–b, 24–c. French Grammar. This course, intended primarily for those who intend to teach French, will be devoted to a systematic study of French grammar in all its phases from elementary to highly advanced.

Prerequisite: Permission of the instructor or of the head of the department. Permission will be granted only to Juniors, Seniors, and graduate students. 3 recitations; 3 credits.

40–a, 41–b, 42–c. Survey of French Literature. A study of French literature from the beginnings to the French Revolution. Lectures, extensive reading, reports, and recitations. Recommended for Juniors, Seniors, and graduate students.

Prerequisite: French 12–c or 18–c. 3 lectures; 3 credits.

51–a, 52–b, 53–c. Honors Course in French. The work of this course is arranged so that the students may gain a knowledge as comprehensive as possible of French language, literature, history, and

civilization. At the weekly conference hours the students give reports in French and all discussion is carried on in French.

Permission to pursue this course depends upon the student's record in courses taken in French and in any other language or languages during the first three years, and on the quality of his work in general.

Credit equal to one year's work.

GERMAN

PROFESSOR PARKER, ASSISTANT PROFESSOR HERING, MISS PARADIS

1–a, 2–b, 3–c. Elementary German. Pronunciation, grammar, word building, reading of easy prose, composition, conversation, dictation, memory work.

3 recitations; 3 credits.

4–a, 5–b, 6–c. Intermediate German. German syntax, reading of from 150 to 200 pages in class and about 100 pages of outside reading, composition, dictation, word-building, and conversation.

Prerequisite: German 3–c or two years of High School German. 3 recitations; 3 credits.

4.5–a, 5.5–b, 6.5–c. Scientific German. This course is primarily for students in the scientific, pre-medical, and technology curricula. The aim is to give students power to read scientific German and to translate very accurately.

Prerequisite: German 3–c or two years of High School German. 3 recitations; 3 credits.

7–a, 8–b, 9–c. Modern German Fiction and Drama. The different movements in German literature of the nineteenth and twentieth centuries, compared with those of the preceding century. The influence of Lessing, Schiller, and Goethe on the drama. The development of the drama from classicism to naturalism. Course to be conducted mainly in German. Written themes in German, outside reading and reports, oral discussions.

Prerequisite: German 6–c. 3 recitations; 3 credits. (Given in alternate years; not given in 1933–34).

10–a, 11–b, 12–c. German Literature of the Eighteenth and Nineteenth Centuries. A study of the structure of the drama of the classic period is the chief aim of this course. The plays of Lessing, Schiller, Goethe and Hebbel will be studied either in class or as outside reading.

Prerequisite: German 6–c. 3 recitations; 3 credits. (Given in alternate years; will be given in 1933–34).

13–a, 14–b, 15–c. Conversation and Composition. The aim of this course is to give students the ability to converse on everyday topics and to express themselves easily in writing. The work will be conducted in German. Required of German majors.

Prerequisites: German 6–c. 3 recitations; 3 credits.

16–a, 17–b, 18–c. German Literature. A survey of German literature. Readings, themes and reports on outside readings. Lectures and quizzes. Required of German majors.

Prerequisite: German 6–c. 3 recitations; 3 credits. (Formerly given as 14–b, 15–c.) (Given in alternate years; given in 1933–34.)

54–a, 55–b, 56–c. Deutschkunde. The history of German civilization.

Prerequisite: Permission of the instructor. 3 recitations; 3 credits. (Given in alternate years; not given in 1933–34.)

GREEK

ASSOCIATE PROFESSOR WALSH

1–a, 2–b, 3–c. Elementary Greek. Grammar, composition, translation. (Will be given in 1933–34; will not be given in 1934–35.)

Prerequisite: Permission of the instructor. 3 recitations; 3 credits.

LATIN

ASSOCIATE PROFESSOR WALSH

1–a, 2–b, 3–c. Latin Poetry. Study of selected poems of Catullus, Ovid, Phaedrus, Martial and the odes and epodes of Horace. Translations, lectures, and study of Latin influence on English poetry. This course is open to students who have passed three years of Latin in preparatory school.

3 recitations; 3 credits.

4–a, 5–b, 6–c. Latin Prose and Comedy. The plays of Plautus and Terence, Livy's History (Books I and II), and Pliny's Letters will be studied for their value as mirrors of the life and history of Rome as well as for their literary value.

Prerequisite: Latin 3–c. 3 recitations; 3 credits.

7–a, 8–b, 9–c. Philosophy and Satire. Particular attention will be paid to the study of the philosophy, religion, natural sciences, and social theories of the Romans.

Prerequisite: Latin 6–c. 3 recitations; 3 credits. (Given in alternate years; will be given in 1933–34.)

10–a, 11–b, 12–c. Literature and History. This course offers a comprehensive view of Latin literature of the Golden Age.

The works of Caesar, Cicero, and Virgil will be studied for their literary value and historical content. The history of Rome during the Golden Age will be studied in order to provide the background necessary to the student or teacher of the classics. Required of Latin majors.

Prerequisite: Latin 3–c. 3 recitations; 3 credits. (Given in alternate years; will not be given in 1933–34.)

13–a, 14–b, 15–c. Latin Composition and Teaching Methods. Translation of English narrative, beginning with the fundamentals of grammar and progressing to a study of prose style and effective idiomatic expression.

It is open to those who have taken or are taking another course in college Latin and is most necessary for prospective teachers of Latin. Required of Latin majors.

3 recitations; 3 credits.

SPANISH

ASSISTANT PROFESSOR BERZUNZA, MR. FLOYD

1–a, 2–b, 3–c. Elementary Spanish. Elements of Spanish grammar, reading of simple prose, oral practice, dictation.

3 recitations; 3 credits.

4–a, 5–b, 6–c. Modern Spanish Prose and Poetry. Review of grammar, memorization, composition, oral practice and reading.

Prerequisite: Spanish 3–c or its equivalent. Freshmen who offer two or more units of Spanish for admission to college may take this course. 3 recitations; 3 credits.

7–a, 8–b, 9–c. The Spanish Novel. In the first part of the course, representative novelists of the modern period such as Fernán Caballero, Valera, Pérez Galdós, Pardo Bazán and Palacio Valdés form the subject of study. In the latter part, Cervantes will be studied. Collateral reading, reports, and lectures on the history of the novel.

Prerequisite: Spanish 6–c. 3 recitations; 3 credits. (Given in alternate years; not given in 1933–34.)

10–a, 11–b, 12–c. Spanish Drama. Dramas of Lope de Vega, Calderón, Echegaray, the Brothers Alvarez Quintero, Benavente, and others. This course is carried on as far as possible in Spanish.

Prerequisite: Spanish 6–c. 3 recitations; 3 credits. (Given in alternate years; will be given in 1933–34.)

13–a, 14–b, 15–c. Spanish Composition and Conversation. The use of written and spoken Spanish is taught by careful attention to pronunciation, grammar, and composition.

This course is especially valuable for students who wish to teach Spanish and conduct Spanish clubs. Permission of the instructor is required before enrollment.

Prerequisite: Spanish 6–c. 3 recitations; 3 credits.

MATHEMATICS

HERMON L. SLOBIN, *Professor*
GEORGE N. BAUER, *Professor*
WALTER E. WILBUR, *Associate Professor*
MARVIN R. SOLT, *Assistant Professor*
MILTIADES S. DEMOS, *Assistant Professor*
WILLIAM L. KICHLINE, *Instructor*
CHARLES A. SEWELL, *Instructor*
DONALD M. PERKINS, *Assistant*

1–a, 2–b, 3–c. First Year Mathematics. This constitutes a course in algebra, trigonometry and analytic geometry.

Prerequisite: See requirements in Mathematics for admission to College of Technology. 6 recitations; 5 credits.

4–a, 5–b, 6–c. The fundamental principles of the infinitesimal calculus, differential and integral, with applications to geometry; introduction to sequences and series.

Required of Arts majors in Mathematics. Prerequisite: Mathematics 3–c. 3 recitations; 3 credits.

7–a, –b, 8–b, –c, 9–c. Calculus. Applications of differentiation and integration; special methods of integration; the definite integral, applications of the definite integral to geometry, physics and mechanics; introduction to sequences and series.

Prerequisite: Mathematics 3–c. 3 recitations; 3 credits.

10–a, 11–b, 12–c. Advanced Calculus and an Introduction to Differential Equations. Professor Slobin.

Prerequisite: Mathematics 9–c. 3 recitations; 3 credits.

14–b, 15–c. The History of Mathematics. This course is designed especially for those preparing to teach mathematics in the high school.

It aims to give an historical background and an appreciation of the development of various fields of mathematics. Associate Professor Wilbur.

Prerequisite: Mathematics 1–a, 2–b, 3–c. 3 recitations; 3 credits. (Given in 1932–33 and thereafter in alternate years.)

16–a, 17–b, 18–c. Secondary School Mathematics and Advanced Algebra. A study of secondary school mathematics offered especially to Seniors who expect to teach mathematics in the high schools. The State Board requirements in the several subjects, and topics in advanced algebra will be studied. Associate Professor Wilbur.

Prerequisites: Mathematics 1–a, 2–b, 3–c. 3 recitations; 3 credits.

19–b. Solid Geometry. Elements of solid geometry.

Prerequisites: High School Algebra and Plane Geometry. 3 recitations; 3 credits.

21–a, 22–b. Mathematics for Students of Agriculture. Elements of algebra, geometry and trigonometry.

4 recitations; 4 credits.

101–a, 102–b, 103–c. Elementary Mathematical Analysis. This course is designed to prepare students for the study of statistics and mathematics of finance. It uses both analytical and graphical methods. The subjects studied are some of the fundamental functions, logarithmic computations, the simpler elements of least squares, etc. Emphasis is placed upon finding mathematical laws or formulae from empirical data.

Prerequisites: High School Algebra and Plane Geometry. 3 recitations; 3 credits.

104–c. Mathematics of Finance. A study of simple and compound interest, discount, annuities, depreciation, evaluation of securities, building and loan associations, and the elements of life insurance.

Prerequisite: Mathematics 102–b or 1–a. 3 recitations; 3 credits.

110–a, 111–b, 112–c. Statistical Methods. This is a basic course and aims to present some of the fundamental principles and methods of statistics. Illustrative material drawn from several fields of study including education, business, sociology, and chance. It deals with such topics as the graphical representation of statistical material, frequency

distribution, measure of dispersion, averages, time series, index numbers, correlation and estimations. Professor Bauer.

Prerequisites: Math. 103–c or 3–c. 3 recitations; 3 credits.

113–a, 114–b. Economic and Business Statistics. Applications of the statistical method to economic and business problems. Price levels, seasonal changes, economic cycles, principles used in business forecasting including a consideration of existing business barometers. Professor Bauer.

Prerequisites: Statistics 112–c. 3 recitations; 3 credits.

120–c. Astronomy. A brief descriptive course. The earth as an astronomical body; the sun and the solar system; the constellations; the stars. Assistant Professor Solt.

3 recitations; 3 credits.

121–c. Astronomy. A brief descriptive course, similar to 120–c, but less extensive. Lectures and text. Assistant Professor Solt.

Prerequisite: Civil Engineering 1–c. 2 recitations; 1½ credits.

For advanced courses in Mathematics see Catalog of the Graduate School.

MECHANICAL ENGINEERING

GEORGE W. CASE, *Professor*
EDWARD L. GETCHELL, *Associate Professor*
THOMAS J. LATON, *Assistant Professor*
E. T. DONOVAN, *Assistant Professor*
E. HOWARD STOLWORTHY, *Assistant Professor*
JOHN J. UICKER, *Instructor*
LYMAN J. BATCHELDER, *Instructor*
JOHN C. TONKIN, *Instructor*
ELIAS O'CONNELL, *Instructor*

1–a. Engineering Drawing. The fundamentals of engineering drawing, including free-hand lettering, use of drawing instruments, the solution of problems in orthographic projection and a brief study of isometric drawing. Assistant Professors Laton and Stolworthy and Mr. Uicker.

Required of all Freshmen in Technology. 2 laboratories; 2 credits.

2–b, 3–c. Engineering Drawing. An application of the principles of descriptive geometry to the solution of problems in points, lines,

planes and solids. Assistant Professors Laton and Stolworthy and Mr. Uicker.

Prerequisite: Mechanical Engineering 1–a. Required of Freshmen in Mechanical, Electrical and Civil Engineering. 2 laboratories; 2 credits.

4–a, 5–b. Machine Drawing. A further application of the principles of orthographic projection to the drawing of machine parts. Various pictorial systems are studied as an aid in sketching. Problems in intersections and developments as applied to sheet metal work are taken up. Commercial drafting room methods are studied and employed in sketching machine parts, drawing from sketches, making of tracings and blueprints. Assistant Professor Laton.

Prerequisite: Mechanical Engineering 1–a. Required of Sophomores in Mechanical and Electrical Engineering. 2 laboratories; 2 credits.

7–c. Agricultural Drawing. Instruction in the course includes drafting room exercises in free-hand lettering, use of drawing instruments, a brief study of orthographic and isometric projection, together with the drawings of plans and elevations of simple form structures. Mr. Uicker.

Required of Sophomores in Forestry. Elective for other Agricultural students. 2 laboratories; 2 credits.

10–a, –b. Wood Work. Plain wood pattern making and elementary foundry practice. Mr. Batchelder.

For Freshmen in Technology. 1 recitation; 2 laboratories; 2 credits.

11–b, –c. Wood Work. Plain cabinet making and finishing; use of stain filler, varnish, shellac, enamels, etc. Mr. Batchelder.

Elective for Liberal Arts and Teacher Training students. 2 laboratories; 2 credits.

12–c. Wood Shop. Carpentry and building, including the construction of buildings, a study of the steel square and its use in the laying out of rafters, stair stringers, trusses, etc. Mr. Batchelder.

Required of Sophomores in Architecture. 1 recitation; 2 laboratories; 3 credits.

13–c. Wood Shop. Instruction in the care and use of tools in farm carpenter shop; saw filing; the making of various implements used on the farm; use of steel square; laying out frames; care of lumber on the farm. Mr. Batchelder.

Elective for Sophomores in Agriculture. 2 laboratories; 2 credits.

14–a, –b, –c. Wood Shop. Practice teaching under the supervision of the instructor in wood working. Mr. Batchelder.

For Seniors in Industrial Teacher Training and Education. 1 recitation; 2 laboratories; 2 credits.

15–c. Wood Work. Advanced pattern making and advanced cabinet making. Mr. Batchelder.

Prerequisite: M.E. 10 and 11. For Seniors in Mechanical and Electrical Engineering and Education. 2 laboratories; 2 credits.

16–a, –b. Forging. This is a study of the operations necessary in the forging of iron and steel, and is designed to teach the methods of drawing, upsetting, welding, twisting, splitting, and punching of iron; also the hardening, tempering, and annealing of steel, and the case hardening of mild steel as adapted to engineering work. Mr. O'Connell.

Freshmen in the College of Technology. 1 recitation; 2 laboratories; 3 credits.

17–b. Forging. This is a study of the forging of iron and steel; and is designed to teach the operations of drawing, welding, upsetting, twisting, splitting, and punching of iron; the hardening, tempering and annealing of steel; and the case hardening of mild steel as adapted to agricultural work. Mr. O'Connell.

Elective for students in Teacher Training Curriculum. 3 laboratories; 3 credits.

18–a. Forging. Advanced work in forging, welding, tempering, case hardening, tool dressing. Mr. O'Connell.

Prerequisite: Mechanical Engineering 16. For Seniors in Industrial Teacher Training Curriculum. 2 laboratories; 2 credits.

20–a, –b; 21–b, –c. Machine Work. Theory and practice of elementary machine work. Practice in the operation of engine lathes and other machine tools. Study of machinability of metals and preparation of test specimens for study of strength of materials, efficiency of various joints, welds and fastenings. Mr. Tonkin.

Required of Mechanical and Electrical Engineering Sophomores. 1 recitation; 2 laboratories; 3 credits.

24–a, 25–b. Machine Work. Advanced work on the lathe, milling machine, planer, shaper and turret lathe, involving making of tools and special machinery and apparatus. Mr. Tonkin.

Prerequisite: Mechanical Engineering 20–a and 21–b. 2 laboratories; 2 credits.

26–a, –b, –c. Machine Work. Manufacturing. A course in the appreciation and measurement of skill, production methods, shop management and time study. Mr. Tonkin.

Prerequisite: Mechanical Engineering 25–b. 2 laboratories; 2 credits.

30–a, –c. Machine Work. An elementary course for chemists and laboratory workers. Mr. Tonkin.

30–a required of Sophomores in Civil Engineering. 30–c required of Freshmen in Chemical Engineering. 2 laboratories; 2 credits.

35–a. Farm Shop. Forge and machine shop work in the repair of gas engines and the equipment of modern farm buildings, and the making, tempering and repair of farm tools. Mr. Tonkin and Mr. O'Connell.

Limited to Agricultural Teacher Training Juniors. 1 recitation; 2 laboratories; 3 credits.

36–c. Farm Shop. Design of farm buildings, the identification and selection of lumber, and the use and care of carpenter tools. Mr. Batchelder.

Limited to Agricultural Teacher Training Juniors. 1 recitation; 2 laboratories; 3 credits.

40–a, 41–b, 42–c. Mechanical Laboratory. This course will give the student instruction in the elements of power plant work, operation of machines for testing materials, general survey of laboratory work and method of conducting tests. In the spring term a study is made of various methods of admitting steam to reciprocating engines. Design of plain slide valve and riding cut-off valve by means of Bilgram and Zeuner diagrams. Setting of valves; governors; reversing gears for locomotives and design of Corliss valve. Associate Professor Getchell.

Required of Sophomores in Mechanical Engineering. 2 laboratories; 1½ credits.

43–a, 44–b, 45–c. Mechanics. A study of forces and moment of forces; determination of stresses in trusses and cranes; centroids and center of gravity; rectilinear and curvilinear motion; translation and rotation of bodies; work, power and energy. The application of the

principles of Mechanics to the determination of stress and strain in rigid bodies. Thin walled cylinders; riveted joints; torsion; transverse loading of beams; deflection in beams of all kinds; study of columns and compound stresses. Associate Professor Getchell.

Prerequisite: Mathematics 8–b. Required of Juniors in Mechanical, Electrical and Civil Engineering. 3 recitations; 3 credits.

46–a, 47–b, 48–c. Mechanics. Forces; composition and resolution of forces, center of gravity; stresses in cranes, frames and structures; moment of inertia of areas and solids; motion of translation and rotation; work, power and energy; strength of materials; riveted joints; sheer and moment diagrams; study of beams of all kinds as regards strength and deflection; torsion and columns. Associate Professor Getchell.

Elective for Juniors in Chemical Engineering. 3 recitations; 3 credits.

49–a, 50–b, 51–c. Mechanics. Principles of Mechanics as applied to architectural work. Winter and spring laboratories to consist of the testing of cement and strength of materials. Study of methods of obtaining strongest and densest mixtures for concrete and making of specimens for later testing. Testing of steels in tension; column tests; shear tests; transverse tests on wooden and concrete beams, etc. Associate Professor Getchell.

Required of all Junior Architects. 2 recitations; 1 laboratory; 3 credits.

52–a. Testing Materials Laboratory. Testing of cements and concrete aggregates. Study of methods of obtaining strongest and densest mixtures for concrete and making of specimens for later testing. Associate Professor Getchell.

Required of all Junior Civil Engineers. 1 laboratory; 1 credit.

53–c. Testing Materials Laboratory. Tension, torsion and sheer tests of steel; compression tests; transverse tests of wooden and concrete beams; column tests. Associate Professor Getchell.

Required of Junior Mechanical, Electrical and Civil Engineers. 2 laboratories; 2 credits.

54–a. Manufacture of Iron and Steel. Study of the location of ores and other raw materials entering into the manufacture of pig iron, of the blast furnace and conversion of pig iron into wrought iron, Bessemer and open hearth steels and of the manufacture of steel by electrical

methods. Heat treatment of steel to produce the various degrees of hardness, strength and ductility. Associate Professor Getchell.

Required of Senior Mechanical Engineers. 2 recitations; 2 credits.

55–a. **Heat Treatment Laboratory.** Study of the effects of various heat treatments on different grades of steel. Testing of the above under different conditions. Microscopic identification of steels, etc. Associate Professor Getchell.

Required of Senior Mechanical Engineers. 2 laboratories; 2 credits.

56–b, –c. **Kinematics.** A study of motion in machine construction; belts and other flexible connectors; gears and gear teeth; wheels in trains; epicyclic trains; cams; instantaneous centers; linkwork, velocity and acceleration diagrams. Assistant Professor Laton.

Required of Sophomore Mechanical and Electrical Engineers. 2 recitations; 2 laboratories; 3 credits.

58–a, 59–b, 60–c. **Machine Design.** The application of the principles of Mechanics to the design of machine elements. This work to be taken up with the idea of manufacturing the parts in the most economical manner in the shops. General principles of design will be followed rather than attempting to develop any particular system of procedure. Assistant Professor Laton.

Prerequisite: Mechanical Engineering 45–c. Required of Senior Mechanical Engineers. 1 recitation; 2 laboratories; 3 credits.

61–a, 62–b, 63–c. **Heat Power Engineering.** A general study of power generation adaptable to the needs of civil engineers. This course will involve only enough fundamental theory to enable the students to grasp a working knowledge of such power mechanism as they may use after graduation. Mr. Uicker.

Prerequisites: Mathematics 8–b and Mechanical Engineering 45–c. Required of Civil Engineering Seniors. 1 recitation; 1 laboratory; 2 credits.

64–a, 65–b. **Thermodynamics.** A study of the fundamental laws of thermodynamics and their relation to the operation of mechanisms using gases and vapors as their working substances. Assistant Professor Donovan.

Prerequisite: Mathematics 8–b. Required of Junior Mechanical and Electrical Engineers. 3 recitations; 3 credits.

65.5–c. Thermodynamics. A further study of the laws of thermodynamics, and their engineering application. Assistant Professor Donovan.

Prerequisite: Mechanical Engineering 65–b. Required of Junior Mechanical Engineers. 3 recitations; 3 credits.

66–a, 67–b. Mechanical Laboratory. Methods of investigating operation and testing of power plant equipment. Assistant Professor Donovan and Mr. Uicker.

Prerequisite: Mechanical Engineering 42–c, and enrollment in 65–b in winter term. Required of Junior Mechanical Engineers. 2 laboratories; 2 credits. (Formerly given as 68.5–a, 69.5–b.)

68–a, 69–b. Mechanical Laboratory. A study of the apparatus and methods for testing power plant operation and equipment. Assistant Professor Donovan and Mr. Uicker.

Prerequisite: Enrollment in Mechanical Engineering 65–b in winter term. Required of Junior Electrical Engineers. 2 laboratories; 2 credits.

72–b, 73–c. Mechanical Laboratory. Testing of steam and gas engines in accordance with A. S. M. E. power test codes. Assistant Professor Donovan.

Prerequisites: Mechanical Engineering 65–b and 69–b. Required of SeniorMechanical Engineers. 2 laboratories; 3 credits.

74–a, 75–b. Power Plants. A study of the steam generating power plant dealing with its equipment and costs. Assistant Professor Donovan.

Prerequisites: Mechanical Engineering 65–b or 67–c. Required of Senior Mechanical and Electrical Engineers. 2 recitations; 2 credits.

75.5–c. Power Plants. A continuation of 75–b. Assistant Professor Donovan.

Prerequisite: Mechanical Engineering 75–b. Required of Senior Mechanical and Electrical Engineers. 2 laboratories; 2 credits.

76–a, 77–b, 78–c. Automotive Engineering. A study of the general construction and operation of the motor vehicle, particularly the engine. Assistant Professor Stolworthy.

Prerequisite: Mechanical Engineering 45–c and 65.5–c. Required of Senior Mechanical Engineers. 2 recitations; 1 laboratory; 3 credits.

79–b. Heating and Ventilating. A study of the present methods of heating and ventilating buildings. Assistant Professor Stolworthy.

Required of Juniors in Architecture. 1 recitation; 2 laboratories; 3 credits.

80–c. Heating and Ventilating. A study of the heat losses and ventilation requirements of buildings, and the design of specific heating and ventilating systems. Assistant Professor Stolworthy.

Required of Seniors in Mechanical Engineering. 1 recitation; 2 laboratories; 3 credits.

82–a, 83–b, 84–c, 85–a, 86–b, 87–c. Student Branch of American Society of Mechanical Engineers. An organization of Junior and Senior students in Mechanical Engineering. The course consists of preparation and presentation of addresses on mechanical engineering topics by members and in which the instructor present criticizes the work from the point of view of delivery, subject matter and terms used.

Required of Juniors and Seniors in Mechanical Engineering. No credit.

90–b, 91–c. Thesis. The thesis embodies research or commercial investigation. Equal emphasis is placed upon composition and accuracy in subject matter.

Required of Senior Mechanical and Industrial Engineers. 1 recitation; 2 laboratories; 2 credits.

92–a, 93–b, 94–c. Management. A study of the principles of management as they deal with the organization of operations, the administration of personnel and the economic expenditure and investment of money. Professor Case.

Required of Senior Mechanical and Junior Civil Engineers and elective for Seniors in General Business. 94–c required of Junior Electrical Engineers. 3 recitations; 3 credits. (Given formerly as 109–a, 104–b and 108–c.)

95–b. Aeronautics. The study of aircraft construction, elementary aerodynamics, airports and air commerce regulations. Assistant Professor Stolworthy.

Prerequisite: Physics 6–a and 9–a and Met. 1–a. Required of Juniors in Mechanical Engineering and elective for other students. Enrollment in this course is limited to 24 students. 2 recitations; 1 laboratory; 3 credits. (Formerly given as 125–b.)

96–c. Aerial Navigation. A study of the compass; plotting and mapping of cross country courses with compensations for wind and for compass error. Assistant Professor Stolworthy and Mr. Christensen.

Prerequisite: M. E. 125–b. Required of Juniors in Mechanical Engineering and elective for other students. 3 recitations; 3 credits. (Formerly given as 126–c.)

97–a, 98–b, 99–c. Contributions of Engineers and Scientists to the Field of Engineering. Studies of the personal characteristics and life work of engineers and scientists. This course is intended for engineering students who are disqualified from Military Science and Physical Education. Less reading will be required of students disqualified only from Military Science. Mr. Uicker.

3 recitations; 3 credits.

100–a, 101–b, 102–c. Advanced Thermodynamics. A consideration of the general theory of thermodynamics, and its application to industrial processes. High temperature effects, heat transmission, properties of thermodynamic substances are discussed. Current progress in the field is studied. Assistant Professor Donovan.

Prerequisite: Mechanical Engineering 74–a and permission of instructor. 3 recitations; 3 credits.

METEOROLOGY

CHARLES H. PETTEE, *Professor*
E. HOWARD STOLWORTHY, *Assistant Professor*

1–a. Meteorology. Recitations and lectures on wind systems, precipitation, humidity, laws of storms and tornadoes, and methods of prediction of atmospheric changes. Assistant Professor Stolworthy.

Prerequisite: Physics. Required of Juniors in Forestry and students who plan to take M.E. 95–b. Elective for others. 3 recitations; 3 credits.

MILITARY SCIENCE AND TACTICS

LIEUTENANT COLONEL EDWARD W. PUTNEY, *Coast Artillery Corps, Professor*
CAPTAIN NORMAN P. WILLIAMS, *Infantry, Assistant Professor*
FIRST LIEUTENANT LEWIS P. JORDAN, *Infantry, Assistant Professor*
FIRST LIEUTENANT GEORGE B. ANDERSON, *Coast Artillery Corps, Assistant Professor*
FIRST LIEUTENANT JAMES F. MCGRAW, *Infantry, Assistant Professor*
SERGEANT FRED W. WOOD, *Coast Artillery Corps, Assistant*
SERGEANT FRED H. BROWN, *Infantry, Assistant*

Military training is carried on concurrently with the academic work in order that the college man may be prepared for service in time of national emergency as well as for the pursuit of his business or profession.

Two courses in Military Science are offered, one in Coast (heavy and anti-aircraft) Artillery, and one in Infantry, each leading to a commission in the Officers' Reserve Corps of the United States. Each course, which covers four years, is divided into the basic course, covering the first two years, and the advanced course, covering the succeeding two years. The basic course is required of all male Freshmen and Sophomores who are physically fit. The advanced course is elective for those who have completed the basic course.

Exemptions or permission to be absent cannot be accorded to Freshmen or Sophomores; and any student who is absent from any part of the instruction will be required subsequently to make up the omitted training or its equivalent before being credited with the number of units necessary for graduation.

Students enrolled in the Colleges of Liberal Arts and Agriculture will be assigned to the Infantry Course, and students enrolled in the College of Technology will be assigned to the Coast Artillery Course. Both courses include the fundamentals of military training, the object of which is the development of such qualities which make for success in either civil or military life, as good health and an erect carriage, courtesy and agreeable manners, enthusiasm, honor, aggressiveness and leadership. In addition, each course pays particular attention to the special material and methods used in that arm.

The Coast Artillery Course covers the principles of the construction, and the use and care of the large caliber guns used in the coast defenses, and in the railway, mobile and anti-aircraft artillery. The manning of these weapons requires a detailed knowledge of guns and their carriages, the forces involved in their firing, motor transportation, advanced surveying, gunnery, and artillery tactics. All heavy artillery material embodies the most advanced scientific principles and the most up-to-date practice in electrical, mechanical and chemical engineering. To the engineering student this course offers, in addition to military training, an excellent opportunity to observe practical applications of his classroom work and to enlarge his view of the engineering field. The War Department furnishes the necessary guns, tractors, motor vehicles and accessories to insure ample opportunity for practical work.

The Infantry Course includes the following subjects: Command and

Leadership; Scouting and Patrolling; Musketry; Map Reading and Sketching; Military Law; Military History; the Combat Principles of the various organizations composing the war strength infantry battalion; and, in addition, a study of the infantry weapons: the caliber .30 service rifle, the caliber .45 automatic pistol; the Browning automatic rifle; the Browning machine gun; the 37-millimeter gun and the 3-inch mortar. Physics, chemistry, history, mathematics and psychology have many practical applications in the Infantry Course.

Equipment furnished by the War Department includes machine guns, howitzer weapons, automatic rifles, service rifles, sketching cases, and field equipment. The entire R. O. T. C. is armed with the 1903 (Springfield) caliber .30 rifle, the same rifle used by the U. S. Army.

The Reserve Officers Training Corps

Physically fit male students who take military training are enrolled in the Reserve Officers Training Corps. Enrollments are for two years in the Basic and the Advanced Courses. Members of the Corps are loaned* all uniforms and equipment necessary in the training.

Advanced Course.—The students who are selected for the Advanced Course and who devote the prescribed time to this course, and attend such summer training camps as may be prescribed by the Secretary of War, are allowed during their Junior and Senior years commutation of subsistence at such rate as the Secretary of War may prescribe. During the academic year of 1931–32 this was 30 cents per day, totalling about $178 for the two years. In addition, members of the Advanced Course are paid at the same rate of pay as privates of the Regular Army, while in actual attendance at the summer training camp. Allowance is also made for the purchase of uniforms and equipment by members of the Advanced Course.

Membership in the Corps does not require the student to enter into any agreement to continue in college a definite length of time, nor does it bind him to any military service. He is as much at liberty to leave college as though he were not a member. He is required, once having entered upon the course, to complete it as a requisite toward graduation

* A deposit of $15 is required of each student having military equipment in his possession, whether registered for Military Science or not. At the end of the academic year or upon a student's severing his connection with the University this deposit will be refunded to him upon the satisfactory return to the University of all military property loaned except that a reasonable deduction will be made to cover any damage beyond natural wear and tear or for the loss of any of the equipment.

in any college maintaining a unit of the Corps, and to observe the rules and regulations prescribed for the government of the Corps.

Commissions.—Each year upon the completion of the Advanced Course, all qualified students are tendered commissions in the Officers' Reserve Corps of the Army of the United States.

Summer Camps.—The requirement of members of the Advanced Course to attend the summer training camps is prescribed from time to time by the Secretary of War. These camps are organized by bringing together members of the R. O. T. C. from several colleges. The training taken at college is elaborated upon and special attention is paid to its practical side. The student is furnished transportation to and from the camp and is given an additional clothing allowance, so that his only expenses are for laundry and such other personal expenditures as he may care to make. Excellent food is provided. Moral conditions are carefully controlled by the regular army officers in charge. The health and hygiene of the students are under direct supervision of medical officers and medical attention is provided for those requiring it while at camp. Athletic contests are a feature of the camp and intercollegiate athletics between members of the different units are encouraged. The student agrees to observe the rules of the camp and to give his best efforts to the course of training. Thus he is offered at no expense an exceptional opportunity for physical and mental development.

Organization.—The unit is organized into a regiment consisting of one battalion, three companies, of Infantry and one battalion, three batteries, of Coast Artillery. Student officers, selected from the senior class by the Professor of Military Science and Tactics, with the approval of the President, are designated for field, staff and company officers not later than the opening of the spring term.

MILITARY SCIENCE COURSES

First Year Basic, Infantry

1-a. Command and Leadership. Physical drill; military courtesy; individual, squad, platoon and company close and extended order drill. Students perform the duties of privates in the infantry battalion for drills, ceremonies and field problems. Lectures and practical work.

No prerequisites. Required of Freshmen. 2 recitations; 1 drill; 1½ credits.

2–b. Rifle Marksmanship. Theoretical and practical instruction in all the phases of rifle marksmanship, including sighting and aiming, positions, trigger squeeze, rapid fire, use of scorebook, nomenclature and care of the rifle; gallery practice.

Military Hygiene and First Aid. Lectures and practical instruction in personal and troop hygiene. Demonstration of and practical instruction in emergency treatment of wounds and injuries.

Required of Freshmen. 3 recitations; 1½ credits.

3–c. Command and Leadership. A continuation of 1–a.

Required of Freshmen. 2 recitations; 1 drill; 1½ credits.

Second Year Basic, Infantry

4–a. Scouting and Patrolling. Individual scouting: use of cover, crossing of obstacles, map reading, operation of compass, messages. The duties of platoon scouts. Observation and sniping posts. The conduct of day and night patrols. Map and terrain problems.

Command and Leadership. Squad, platoon and company close and extended order drill. Students perform the duties of corporals in the infantry battalion for drills, ceremonies and field problems.

2 recitations; 1 drill; 1½ credits.

5–b. Infantry Weapons (Automatic Rifle). Nomenclature and operation of the Browning automatic rifle; marksmanship; tactical uses of the weapon.

Combat Principles. Theoretical and practical instruction in the conduct of a rifle squad in the field. Practical instruction on varied ground with a view to training the student to lead a squad in attack and defense and on security missions.

3 recitations; 1½ credits.

6–c. Musketry. Range estimation, target designation, the effect of fire, fire discipline, and fire control. Lectures, map and terrain problems.

Infantry Weapons (Automatic Rifle). Firing on the 1000-inch range.

Command and Leadership. A continuation of 4–a.

2 recitations; 1 drill; 1½ credits.

First Year Advanced, Infantry

7–a. Military Sketching. Practical work in sketching and map reading.

37-millimeter Gun and 3-inch Trench Mortar. Instruction covers determination of fire data, means of fire control, fire orders, field stripping and assembling, going into action and out of action.

Command and Leadership. Theoretical and practical instruction in the duties of officers and non-commissioned officers of infantry. Students act as sergeants for drills, ceremonies and field problems.

Prerequisites: 1–a, 2–b, 3–c, 4–a, 5–b, 6–c. 3 recitations; 1 drill; 3 credits.

8–b. Combat Principles. Tactical principles; estimate of the situation; field orders; tactics of the rifle squad and the rifle section.

Infantry Weapons (Machine Guns). The nomenclature and operation of the caliber .30 Browning machine gun; marksmanship; direct and indirect laying; preparation of battery charts.

4 recitations; 3 credits.

9–c. Command and Leadership. A continuation of 7–a.

Infantry Weapons. Gun drill; range firing with the Browning machine gun on the 1000-inch range.

3 recitations; 1 drill; 3 credits.

Second Year Advanced, Infantry

10–a. Combat Principles. Tactics of the rifle platoon, company and battalion; functioning of the battalion staff; map and terrain problems.

Command and Leadership. Students perform the duties of officers in the cadet regiment. Theoretical and practical instruction in platoon, company and battalion drill, and ceremonies.

Prerequisite: First Year Advanced. 3 recitations; 1 drill; 3 credits.

11–b. Military History. Lectures and study of American military history and policy from the Revolution to the World War; study of the National Defense Act of 1920.

Administration. Lectures and problems covering the administration of a rifle company.

Military Law. Lectures on the American system of military law: summary, special and general courts-martial; preparation of charges; the articles of war.

Military Field Engineering. Problems in the intrenching of the rifle squad, section, platoon, and company; the building of obstacles.

4 recitations; 3 credits.

12–c. Combat Principles. Field problems involving the rifle company and the infantry battalion.

Command and Leadership. Continuation of 10–a.

3 recitations; 1 drill; 3 credits.

First Year Basic, Coast Artillery

18–a. Drill and Command. Military courtesy and discipline. The National Defense Act and the R. O. T. C.

2 recitations; 1 drill; 1½ credits.

19–b. Instruction in 2nd Class Gunners' Work for C. A. C. Ammunition, cordage, telephones, service of the piece, nomenclature, care and adjustment of the 75 mm. anti-aircraft gun, and rifle marksmanship. Military hygiene and first aid.

3 recitations; 1½ credits.

20–c. Service of the Piece, Nomenclature, Care and Adjustment of the 155-mm. Gun. Drill and command. Ceremonies for the battalion and regiment.

2 recitations; 1 drill; 1½ credits.

Second Year Basic, Coast Artillery

21–a. Fire Control Instruments. Range section duties for seacoast, mobile, and anti-aircraft artillery. Drill and command.

2 recitations; 1 drill; 1½ credits.

22–b. Range Section Duties. Indication and identification of targets (warships and aircraft).

3 recitations; 1½ credits.

23–c. Drill and Command. Each student is given opportunity to drill the platoon. Ceremonies. Aiming and laying of guns and mortars. Definitions, Coast Artillery.

2 recitations; 1 drill; 1½ credits.

First Year Advanced, Coast Artillery

24–a. Drill and Command. Map Reading. Military sketching. Orientation. Position finding systems (to include heavy artillery and anti-aircraft artillery).

Elective for Juniors. 3 recitations; 1 drill; 3 credits.

25–b. Gunnery. Heavy and anti-aircraft artillery. Conduct of fire. Analysis of drill and target practice.

Elective for Juniors. 4 recitations; 3 credits.

26–c. Drill and Command. Gunnery, anti-aircraft artillery, continued. Analysis of drill and target practice.

Elective for Juniors. 3 recitations; 1 drill; 3 credits.

Second Year Advanced, Coast Artillery

27–a. Artillery Material. To acquaint the student with those types of artillery material not covered in previous years, and to round out the information gained at camp.

Orientation. To enable the student to perform the topographical operations necessary for accurate computation of firing data in the field and in seacoast firing.

Drill and Command. To qualify the student to perform the duties of platoon and company commanders and to be instructors of basic students in close order drill, physical drill and ceremonies; especial attention being paid to the development of leadership qualities and methods of instructing and handling men.

3 recitations; 1 drill; 3 credits.

28–b. Military Law and Officers' Reserve Corps Regulations. Military history and policy; administration and supply; military field engineering.

4 recitations; 3 credits.

29–c. Military Motor Transportation. Artillery tactics; drill and command.

3 recitations; 1 drill; 3 credits.

MUSIC

ROBERT W. MANTON, *Associate Professor and Director*
LEWIS C. SWAIN, *Instructor and Bandmaster*

The courses offered by the department for a major are of two kinds:

1. Courses which are technical and grammatical in nature and are meant to provide a solid background for students intending to follow the musical profession as teachers and composers. These are Music 107–a, 108–b, 109–c; 110–a, 111–b, 112–c; 113–a, 114–b, 115–c; 116–a, 117–b, 118–c; 119–a, 120–b, 121–c.

2. Courses which treat of the historical, literary and aesthetic side of music and are meant for those who wish to acquire a broad appreciation of the art, and to familiarize themselves with the standard works of musical literature. These courses are Music 101–a, 102–b, 103–c; 104–a, 105–b, 106–c; 125–a, 126–b, 127–c.

3. The third group of courses is practical in nature and embraces the educational activities of the University Glee Clubs, Band, and Symphony Orchestra.

It is recommended that students, who intend to elect Music as a major, consult the head of the department as early in their Freshman year as possible relative to the best disposition of the sequence of courses in the major.

Students who intend to take only one or two courses in Music, for the cultivation of musical taste and general knowledge, are recommended to elect either Music 101–a, 102–b, 103–c; 104–a, 105–b, 106–c, as best adapted to this end.

Students interested in some particular musical organization, such as glee clubs or orchestra, are permitted to elect work with the organization desired.

1. **University Band**
   Prerequisite: Ability to play some band instrument and satisfactory completion of Basic Course, R. O. T. C. Open to others with special permission of the Professor of Military Science and Tactics. 1½ credits.

2. **The Men's Glee Club**
   Open to all undergraduates interested in choral singing who fulfill the requirements of a try-out. ½ credit.

3. **Advanced Choral Club (Men)**
   Prerequisite: A grade of 80, or more, in the previous course. Participation in some extra-curricular work. 1 credit.

4. **The Women's Glee Club**
   Open to all undergraduates interested in choral singing who fulfill the requirements of a try-out. ½ credit.

5. **Advanced Choral Club (Women)**
   Prerequisite: A grade of 80, or more, in the previous course. Participation in some extra-curricular activity. 1 credit.

6. **The University String Orchestra**
   Open to all undergraduates interested in string orchestral playing who fulfill the requirements of a try-out. ½ credit.

7. **Advanced Orchestral Club**

Prerequisites: A grade of 80, or more, in the previous course, exceptional solo technique. Departmental class illustrations, string quartet, trio playing and the like. 1 credit.

NOTE: In all these activities the educational values will be strongly stressed. The principles of ensemble, solo work, tone production, diction and above all sound musicianship, will be studied and concerts prepared separately and in combination to enhance and vitalize the university life. They may also be called upon to illustrate as the occasion arises the historical and cultural courses of the department. Attendance at rehearsals will be in accordance with the rule covering class work.

101–a, 102–b, 103–c. History of Music, from that of Ancient Greece to the Present Day. This is a literary course and instruction is given in the form of lectures. The beginnings of Greek and Roman music, the Early Church, systems of notations, beginnings of harmony and counterpoint, the Troubadours and Minnesingers, the Motet and Madrigal, Folk Song, the 17th, 18th, 19th and 20th century composers, music in America, modern tendencies in composition, polyharmony and atonality, are some of the topics treated together with many lesser phases. This course is open to Freshmen and others and presupposes knowledge of the fundamental principles of music. Associate Professor Manton.

Elective. 2 lectures or recitations; 1½ credits.

104–a, 105–b, 106–c. The Appreciation of Music. This course begins with a study of the elements of music such as: rhythm, melody, harmony, homophonic and polyphonic types, constructive formulas and the musical forms employed in composition; for upon the recognition of these elements depends the approach to intelligent appreciation. Comprehensive illustrations of the great musical literature will be played and jointly analyzed by the instructor and students from the point of view of the listener. This course is open and especially recommended to all students who wish to become familiar with the art of music in its many phases, and gain a wider acquaintance with the masterpieces of musical art. Associate Professor Manton.

Elective. 3 lectures or recitations; 2 credits.

107–a, 108–b, 109–c. Harmony, The Grammar of Music. The fundamental principles of the craft of music are embodied in the study of harmony. This course treats of the different chords in their natural

and combined relations: triads, seventh and ninth chords with their inversions and resolutions; cadences, chromatically altered chords, augmented chords, suspensions; passing and auxiliary notes, modulation, melody writing, pedal point, etc.

The work consists of exercises on basses and the harmonization of given melodies, dictation, etc. This course is open and especially recommended to Freshmen and others. The ability to play some instrument will facilitate an understanding of this course. Associate Professor Manton.

Elective. 2 lectures or recitations; 2 credits.

110–a, 111–b, 112–c. Advanced Harmony and Harmonic Analysis. This course is intended to supplement 107–a—109–c and to lay stress on the many significant innovations found in modern harmony; a thorough study of modal harmony and its relation to composition and the appreciation of fifteenth- and sixteenth-century music; and to give the student a thorough harmonic vocabulary in preparation for contrapuntal writing. Associate Professor Manton.

Prerequisite: Music 107–a—109–c. 2 lectures or recitations; 2 credits.

113–a, 114–b, 115–c. Counterpoint and Elementary Composition. Counterpoint is the combining of several melodic voices, a horizontal conception of writing, and is essential to all finished craftsmanship. The work will treat of the various orders of strict counterpoint, the treatment of cantus firmus in different voices, double counterpoint, choral figuration, free imitation, etc.

The work in composition will include thorough training in detail relating to sentence formation, two and three-part forms, inventions, the variation forms, and the various rondo forms up to the Sonata form. Associate Professor Manton.

Prerequisite: Music 107–a—112–c. 3 lectures or recitations; 2 credits.

116–a, 117–b, 118–c. Canon and Fugue. Canon and Fugue are the most advanced forms of polyphonic composition requiring a thorough grounding in harmony and counterpoint. The object of this course is to perfect the contrapuntal technique of the student, enabling him to study the larger and freer forms of composition. The work will be based on the fugal works of Bach and Franck, and consists of practice in writing rounds, canons of all species; and the analysis and composition of fugues. Associate Professor Manton.

Prerequisite: 107–a—115–c. 2 lectures or recitations; 2 credits.

119–a, 120–b, 121–c. Instrumentation. This course is designed to ground the student in the idiomatic writing and technique necessary to score effectively for the symphonic orchestra. It necessitates a good grasp of the fundamental principles of harmony and counterpoint. All the orchestral and the many incidental instruments will be considered individually as to their technique, range, tonal qualities, possibilities and limitations; then in separate choirs; and finally in combination as a whole unit.

Orchestral scores will be studied in detail; score reading and reduction emphasized; and original work in this idiom encouraged. Associate Professor Manton.

Prerequisite: 107–a—112–c. 3 lectures or recitations; 2½ credits.

125–a, 126–b, 127–c. The History and Development of Choral Music. This is a special course consisting of lectures, readings and reports. Only a limited number of qualified students will be admitted.

The course is designed to trace a straight line through such study as: Gregorian Chant, folk song, the music of the Troubadours, the beginnings of harmony and counterpoint, the work of the Netherland masters and of Palestrina and his contemporaries; the German choral works of the Reformation, the Tudor School in England; the choral works of Bach, Handel, etc., ending with a consideration of the choral literature of the nineteenth century and the modern French, English and Russian choral composers, such as Delius, Holst, Vaughan Williams, Lambert Honegger, etc.

Students will meet three times a week, the third meeting being devoted to class singing and study of the works considered in the lectures. Associate Professor Manton.

3 lectures or recitations; 2 credits.

NOTE: No fee is attached to courses 101–a to 127–c inclusive.

PIANOFORTE, VOICE AND ORGAN

FRANCES E. DEWOLFE, *Instructor in Voice*
HARRIS S. SHAW, *Instructor in Pianoforte and Organ*

An opportunity to secure private instruction in pianoforte, voice and organ is available to all students. These offerings do not carry academic credit and therefore cannot be used to satisfy major, group, college and university requirements.

Tuition: Students who elect these courses will pay tuition (in addition to University tuition) as follows:

Private instruction in piano, 50 minute lesson a week, $36 a term.

Private instruction in organ, 50 minute lesson a week, $36 a term.

Private instruction in voice, $1.50 per 30-minute lesson.

It is possible to take one lesson every other week, according to the individual circumstances of a student.

PIANOFORTE

22–a, 23–b, 24–c. Elementary Course. This course consists of a correct knowledge of such fundamentals as: notation, nomenclature, rhythm, elementary pedaling and technique, principles of phrasing, touches, stress, etc. This is supplemented by studies and simple compositions embodying the above elements and will be adapted to the needs of the individual student.

Elective. 1 lesson.

25–a, 26–b, 27–c. Intermediate Course. This course consists of the development and strengthening of 22–a—24–c, together with the fundamentals of freedom and relaxation, rotary and lateral movements, hand adjustments, principles of style, tonal production, uneven rhythms, embellishments, etc. Adapted to the needs of the individual student and supplemented by interesting and vital pianoforte literature.

Prerequisite: Piano 22–a—24–c or the equivalent. 1 lesson.

28–a, 29–b, 30–c. Advanced Playing, Interpretation, etc. This course presupposes the two previous courses and gives the student a grounding in the higher and more subtle phases of piano playing such as are necessary for finished execution. Advanced technique, bravura playing, individual interpretation, finished hand adjustment and absolute tonal command, together with work on musical form and pianistic evolution as applied to recreation will dominate this course. Adapted to the individual needs and supplemented by the master works of pianoforte literature.

Prerequisite: Piano 22–a—27–c. 1 lesson.

NOTE: 22–a—30–c inclusive are fee courses.

VOICE

31–a, 32–b, 33–c. Elementary Course. This course consists of a correct knowledge of such fundamentals as: breath control, resonance, flexibility of voice, attack, enunciation and articulation. It also consists of a practical knowledge of sight singing which enables the student

to read and understand his music as fast as the voice acquires the ability to perform the same, supplemented by the correct singing of the simpler form of song or ballad.

Elective. 1 lesson.

34–a, 35–b, 36–c. Intermediate Course. This course consists of the development of the fundamentals of voice placing such as: breath control, resonance, etc., together with a progressive step in reading made by singing through the different keys. This is supplemented by songs and ballads of medium difficulty, church music, quartet work. Emphasis is placed on dramatic values from the singer's standpoint.

Prerequisite: Voice 31–a—33–c or the equivalent. 1 lesson.

37–a, 38–b, 39–c. Advanced Course. This course presupposes the two previous ones; furthers the fundamentals of voice placing, aids in the mastery of all modes, intervals and musical phrases; develops the voice and acquires control of it for finished execution. This is supplemented by a study of the oratorio, opera, and the master works of song.

Prerequisite: Voice 31–a—36–c. 1 lesson.

NOTE: 31–a—39–c are fee courses.

ORGAN

40–a, 41–b, 42–c. Elementary Course. Manual and pedal technique. Short pieces presenting the fundamentals of registration, use of swells, etc.

Prerequisite: Piano 22–a—24–c or the equivalent. 1 lesson.

43–a, 44–b, 45–c. Intermediate Course. The smaller preludes and fugues of Bach; easier works of the modern French masters.

Prerequisite: Organ 40–a—42–c. 1 lesson.

46–a, 47–b, 48–c. Advanced Course. Master organ works of Bach; preludes, toccatas and fugues, choral preludes; master works of Cesar Franck, Widor, Vierné and the English and American schools together with a study of adaption, modulation, accompaniment, Gregorian chant, mediæval or modal harmony, conducting, hymnology, etc.; in relation to practical church service work.

Prerequisite: Organ 40–a—45–c. 1 lesson.

NOTE: 40–a—48–c inclusive are fee courses.

PHILOSOPHY AND PSYCHOLOGY

HERBERT F. RUDD, *Professor*
ADOLPH G. EKDAHL, *Associate Professor*

PHILOSOPHY

PROFESSOR RUDD

24–a, 25–b, 26–c. The Philosophy of Modern Life. This is a survey of problems which are basic in building a modern philosophy of life. First term: a study of human nature and personality development as factors in the attainment of human ideals. Second term: a study of human relations and ethical principles. Third term: a survey of modern sciences and their bearing on a philosophy of nature.

Elective for Sophomores, Juniors, and Seniors. 3 lectures or recitations; 3 credits.

31–a, 32–b, 33–c. History of Philosophy. A history of philosophic thinking from the ancient Greeks to contemporary philosophers.

Elective for Juniors and Seniors. 3 lectures or recitations; 3 credits.

39–a. Ethical Theory. A survey and an evaluation of fundamental assumptions about the good life.

Elective for Juniors and Seniors. 3 lectures or recitations; 3 credits.

41–c. The Art of Thinking: Logic. A study of the methods, criteria and processes involved in the search for truth.

Elective for Juniors and Seniors. 3 lectures or recitations; 3 credits.

43–b. Applied Ethics. An application of ethical theory to contemporary social, economic and political problems.

Elective for Juniors and Seniors who have taken 24–a, 25–b, 26–c, or who secure the consent of the instructor. 3 lectures or recitations; 3 credits.

54–a, 55–b, 56–c. Seminar: Special Problems in Philosophy.

Elective with consent of instructor for Seniors who have taken two years' work in Philosophy. Credit to be arranged.

PSYCHOLOGY

ASSOCIATE PROFESSOR EKDAHL

GRADUATE WORK: For courses primarily for graduate study see Catalog of Graduate School.

21–a. Elementary Psychology. This course together with 22–b covers the general field of psychology and consists of lectures, recitations and class demonstrations. A study of the sensations, feeling, attention, reflexes, instincts and emotions.

3 lectures or recitations; 3 credits.

22–b. Elementary Psychology. A continuation of 21–a. A study of perception, judgment, imagination, association, memory, learning and reasoning.

3 lectures or recitations; 3 credits.

For the following courses the prerequisites are Psychology 21–a and 22–b, unless otherwise specified or permission is granted by instructor.

23–c. Advanced Psychology. A brief historical survey of the field of theoretical psychology. Psychological concepts and theories as developed by the various modern "schools" of psychology such as Functionalism, Behaviorism and Structuralism are considered.

3 lectures or recitations; 3 credits.

30–a, –c. Applied Psychology in Commerce and Industry. The purpose of this course is to assist the student in obtaining a more accurate and complete understanding of human nature. The elementary facts, laws and principles of psychology are considered with specific applications to commercial and industrial problems. Lectures, assigned readings and discussions.

3 lectures or recitations; 3 credits.

37–a. Experimental Psychology. Simple experiments on the sensations. Emphasis will be given toward the development of the proper technique of psychological investigation.

1 lecture; 2 laboratories; 3 credits.

38–b. Experimental Psychology. Experiments on the complex mental processes involving perception, association, imagination, learning and reasoning.

1 lecture; 2 laboratories; 3 credits.

39–c. Experimental Psychology. Psychophysical measurements, the determination of Weber constants, limens of sensibility, etc.

1 lecture; 2 laboratories; 3 credits.

Psychology 21–a and 22–b may be waived for Seniors and Pre-medical Sophomores in the following courses.

47–a. Physiological Psychology. A study of the physical basis of mind, nerve functions and their correlations with mental processes.

3 lectures or recitations; 3 credits.

48–b. Comparative Psychology. A study of psycho-genesis or the development of "mind" beginning with the one-celled organisms. Simple experiments in animal learning.

3 lectures or recitations; 3 credits.

49–c. Abnormal Psychology. A study of abnormal phenomena such as disorders of perception, association, memory, judgment and personality. The psychoses and psychoneuroses will be considered and a brief review of mental deficiency presented. Visits to institutions.

3 lectures or recitations; 3 credits.

51–a, 52–b, 53–c. Seminar. Special Problems in Psychology. Credit to be arranged.

PHYSICAL EDUCATION

PHYSICAL EDUCATION FOR MEN

WILLIAM H. COWELL, *Professor, Director of Athletics and Coach of Football*
HENRY C. SWASEY, *Associate Professor, Coach of Baseball and Basketball*
PAUL C. SWEET, *Assistant Professor, Coach of Track, Cross-Country, Relay and Winter Sports*
E. W. CHRISTENSEN, *Instructor, Assistant Coach of Varsity Football, Coach of Hockey and Lacrosse*
CARL LUNDHOLM, *Instructor, Supervisor and Coach of Freshman Football, Basketball and Baseball*
ALFRED H. MILLER, *Instructor, Assistant Coach of Football, Relay and Track*
PERCY F. REED, *Assistant, Coach of Boxing*
CHARLES O. NASON, *Department Financial Secretary*
WILLIAM F. MARSH, *Trainer*
FRANCIS E. CAREY, *Department Secretary*

AIMS—1. To promote regulated exercise, and to provide an incentive and opportunity for every student to receive physical recreation.

2. To secure good posture, a uniform development and a reasonable amount of bodily skill and grace.

3. To stimulate the habit of exercise.

EQUIPMENT.—The Gymnasium affords accommodations for training and indoor games.

On the ground floor are the lockers and various shower baths.

On the first floor are offices and the main gymnasium hall.

On the second floor are the offices of the athletic director and assistants.

The Memorial Field adjoins the Gymnasium. The field, one of the best in New England, is equipped with a one-fourth mile cinder track, a fine sodded grass football gridiron, and adequate stands for the crowds attending New Hampshire activities. Adjoining Memorial Field a beautiful pond has been constructed for swimming, skating, hockey, and water sports.

Three minutes' walk from the Gymnasium are fields for baseball and other sports.

REQUIREMENTS.—All men students in the freshman and sophomore classes are required to complete the prescribed work in Physical Educa-

tion. All men disqualified from the regular class work in Physical Education shall be required to register for work in corrective gymnastics, unless excused by the University Health Officer upon recommendation of the University Physician.

The gymnasium suit adopted by the department consists of a gray cotton sleeveless jersey, gray flannel trunks with blue trimming on leg seams, white woolen socks and rubber-soled tennis or basketball shoes. This suit must be worn at all class exercises in Physical Education.

The minimum requirement of each term's work calls for participation in some form of approved physical exercise for at least two periods weekly for 9 weeks.

Students may elect any scheduled activity desired, either as members of an organized athletic squad or as members of regular sections of an approved activity.

The activities which are offered during the year are baseball, basketball, boxing, cross country, football, hockey, skating, skiing, snowshoeing, swimming, tennis, track and volley ball.

(*Consult "Subject and Room Schedule" for Schedule of Approved Activities.*)

51–a, 52–b, 53–c. Physical Education. The program for the year consists of numerous seasonal activities. Students may elect activity desired. For students physically unfit, corrective gym work will be prescribed.

Required of all Freshmen. Work, 2 hrs.; ½ credit.

54–a, 55–b, 56–c. Physical Education. The year's program consists of numerous seasonal activities. Students may elect activity desired. For students physically unfit, corrective gym work will be prescribed.

Required of all Sophomores. Work, 2 hrs.; ½ credit.

PHYSICAL EDUCATION FOR WOMEN

MARGARET R. HOBAN, *Assistant Professor and Director*
GWENYTH M. LADD, *Instructor*
CECILLE MESERVE, *Assistant*
CAROLINE M. STREETER, *Assistant*

OBJECTIVES: To encourage wholesome recreational activities; to establish fundamental health habits; to maintain a balance between mental and physical development.

REQUIREMENTS: **All courses in Physical Education for Women are year-courses when required of or elected by students in the College of Liberal Arts.** Every University woman student must take at least one course of practical work each of her freshman, sophomore, and junior years. One additional course each year may be elected for credit.

Each student must, upon entering, have a physical examination by the University Physician and a motor ability test by the Physical Education Staff.

Seasonal activities elected by each student are approved by the department on the basis of the results of the physical examination and the motor ability test. Except in special cases, no more than two seasons of the same sport shall be credited.

REQUIRED COSTUME.—White step-in blouse, New Hampshire blue tunic, blue ankle length hose and low black tennis shoes. This costume may be purchased at Wright & Ditson, Boston, Massachusetts.

*** 1–a, 2–b, 3–c. Physical Education.**

Fall season.—Archery and Bowling; Tennis and Formal Gymnastics; Hockey and Formal Gymnastics; Soccer and Formal Gymnastics; Tap Dancing; Archery and Folk Dancing; Tennis and Folk Dancing; Horseback Riding; Hiking and Informal Gymnastics; Tennis and Bowling; Archery and Informal Gymnastics; Tennis and Fencing; Swimming and Bowling; Tennis and Informal Gymnastics; Swimming and Basketball; Individual Gymnastics (required of all Freshmen whose physical condition indicates this need).

Winter season.—Formal Gymnastics; Individual Gymnastics (required of all Freshmen whose physical condition indicates this need).

Spring season.—Archery and Bowling; Tennis and Informal Gymnastics; Track and Formal Gymnastics; Baseball—outdoor and indoor; Pageant Dancing; Archery and Folk Dancing; Tennis and Folk Dancing; Horseback Riding; Hiking and Informal Gymnastics; Track and Informal Gymnastics; Archery and Informal Gymnastics; Tennis and Bowling; Swimming and Bowling; Swimming and Informal Gymnastics; Tennis and Formal Gymnastics; Individual Gymnastics (required of Freshmen whose physical condition indicates this need).

Required of all Freshmen. 2 periods; 1½ credits.

* In addition to the regulation costume required of all students, the following regulations and approximate prices should be noted: students are required to furnish their own individual equipment for such activities as riding, tennis, tap dancing, swimming, individual gymnastics, skating and winter sports; bowling 20 cents a class; horseback riding $20.00 a season.

1.5–a, 2.5–b, 3.5–c. Physical Education.

Fall season.—Archery and Bowling; Tennis and Formal Gymnastics; Hockey and Formal Gymnastics; Soccer and Formal Gymnastics; Tap Dancing; Archery and Folk Dancing; Tennis and Folk Dancing; Horseback Riding; Hiking and Informal Gymnastics; Tennis and Bowling; Archery and Informal Gymnastics; Tennis and Fencing; Swimming and Bowling; Tennis and Informal Gymnastics; Swimming and Basketball; Individual Gymnastics.

Winter season.—Formal Gymnastics; Fencing; Bowling; Basketball; Winter Sports; Tap Dancing; Character and Natural Dancing; Individual Gymnastics.

Spring season.—Archery and Bowling; Tennis and Informal Gymnastics; Track and Formal Gymnastics; Baseball—outdoor and indoor; Pageant Dancing; Archery and Folk Dancing; Tennis and Folk Dancing; Horseback Riding; Hiking and Informal Gymnastics; Track and Informal Gymnastics; Archery and Informal Gymnastics; Tennis and Bowling; Swimming and Bowling; Swimming and Informal Gymnastics; Tennis and Formal Gymnastics; Individual Gymnastics.

Required of Freshmen majoring in Physical Education. Elective for other Freshmen. 2 periods; 1½ credits.

4–a, 5–b, 6–c. Physical Education.

Elect seasonal activities from the list under Physical Education 1.5–a, 2.5–b, 3.5–c. Required of Sophomores. 2 periods; 1½ credits.

4.5–a, 5.5–b, 6.5–c. Physical Education.

Elect seasonal activities from the list under Physical Education 1.5–a, 2.5–b, 3.5–c. Required of Sophomores majoring in Physical Education. Elective for other Sophomores. 2 periods; 1½ credits.

7–a, 8–b, 9–c. Physical Education.

Elect seasonal activities from the list under Physical Education 1.5–a, 2.5–b, 3.5–c. Required of Juniors. 2 periods; 1½ credits.

7.5–a, 8.5–b, 9.5–c. Physical Education.

Elect seasonal activities from the list under Physical Education 1.5–a, 2.5–b, 3.5–c. Required of Juniors majoring in Physical Education. Elective for other Juniors. 2 periods; 1½ credits.

10–a, 11–b, 12–c. Physical Education.

Elect seasonal activities from the list under Physical Education 1.5–a, 2.5–b, 3.5–c. Required of Seniors majoring in Physical Education. Elective for other Seniors. 2 periods; 1½ credits.

10.5–a, 11.5–b, 12.5–c. Physical Education.

Elect seasonal activities from the list under Physical Education 1.5–a, 2.5–b, 3.5–c. Required of Seniors majoring in Physical Education. Elective for other Seniors. 2 periods; 1½ credits.

MAJOR SECTION

Courses listed in this section are primarily for students majoring in Physical Education. Women students from other departments may, however, elect any of the following courses provided they have the proper requisites.

14–a, 15–b, 16–c. Introduction to Physical Education, Play and Pageantry. This course deals with the theory, nature and function of organized play, the history of physical education and the technique of pageantry. Very useful for those who intend to do playground, summer camp or community recreation work.

Required of Sophomores majoring in Physical Education. 3 lectures; 3 credits. (Formerly given as 14–a, 15–b, 16–a, 17–b, 38–c.)

23–a, 24–b, 25–c. Methods of Physical Education and Dancing. A professional viewpoint of modern physical education. The course includes a definitely organized program of activities from the primary grades through college.

Required of Juniors majoring in Physical Education. 3 lectures or recitations; 4 laboratories; 4 credits. (Formerly given as 26–a, 32–a, 33–b, 34–c.)

26–a, 27–b, 28–c. The Theory and Coaching of Athletics. A detailed study of the principles involved in the teaching of team games and individual sports. Emphasis will be placed on coaching methods and officiating.

Prerequisites: Physical Education 16–c, 25–c. Required of Seniors majoring in Physical Education. 3 lectures or recitations; 4 one-hour laboratories; 4 credits. (Formerly given as 23–a, 24–b, 25–c, 26–a, 28–c.)

35–a, 36–b, 37–c. Remedial Gymnastics and Massage. This course deals with the adaptation of exercise to individual needs; physical abnormalities and their correction; theory and practice of massage.

Prerequisites: Zoölogy 3–c and 13–a, 14–b, 15–c. Required of Seniors majoring in Physical Education. 2 lectures or recitations; 1 laboratory; 3 credits.

PHYSICS

HORACE L. HOWES, *Professor*
CLEMENT MORAN, *Associate Professor*
RAYMOND R. STARKE, *Assistant Professor*
WILLIAM H. HARTWELL, *Instructor*
HAROLD I. LEAVITT, *Instructor*

1–a, 2–b, 3–c. Introductory College Physics. The properties of matter, heat, magnetism, electricity, wave-motion, sound, and light. The course includes experimental lectures, laboratory exercises, recitations from Kimball's "College Physics." Professor Howes, Associate Professor Moran, Assistant Professor Starke, Mr. Hartwell, Mr. Leavitt.

Required of students in Agriculture. Elective for Arts students. 1 lecture; 2 recitations; 1 laboratory; 4 credits.

6–a, 7–b, 8–c. General Physics. Mechanics and properties of matter the first term, followed by heat and selected topics in sound and light the second term; magnetism and electricity the third term. A standard college text will be used in recitation work. Professor Howes, Associate Professor Moran, Assistant Professor Starke, Mr. Hartwell, Mr. Leavitt.

Prerequisites: Mathematics 1–a, 2–b, and 3–c in advance and Mathematics 7–a, 8–b, and 9–c either in parallel or as a prerequisite. Required of Sophomores in the Chemical, Civil, Mechanical and Electrical Curricula. Elective for those Arts students who have passed Introductory College Physics and have the prerequisites in Mathematics. 1 lecture; 3 recitations; 4 credits.

9–a. General Physics Laboratory. Open only to those students who are studying 6–a, or who have previously obtained credit for 6–a. Experiments in properties of matter and mechanics with report writing and curve-plotting. Reports are carefully criticized by the department and corrected by the student. The appreciation of the laws of physical science, with the development of laboratory technique and an estimation

of the limitations of scientific experimentation is the aim. Associate Professor Moran, Assistant Professor Starke, Mr. Hartwell, Mr. Leavitt.

Prerequisites: The same as for 6–a, 7–b, 8–c. Required of Sophomores in Chemical, Civil, Mechanical and Electrical Curricula. Elective for Liberal Arts students under the same conditions as those specified for Physics 6–a. 2 laboratories; 3 credits.

10–b. General Physics Laboratory. A continuation of Physics 9–a to include experiments in heat, sound, and light. Associate Professor Moran, Assistant Professor Starke, Mr. Hartwell, Mr. Leavitt.

Prerequisites: Physics 6–a and 9–a. Physics 7–b in parallel or as a prerequisite. 2 laboratories; 3 credits.

11–c. General Physics Laboratory. A continuation of Physics 10–b to include experiments in electricity and magnetism. Associate Professor Moran, Assistant Professor Starke, Mr. Hartwell, Mr. Leavitt.

Prerequisites: Physics 6–a, 7–b, 9–a, 10–b. Physics 8–c in parallel or as a prerequisite. 2 laboratories; 3 credits.

13–c. Elementary Optics and Photography. Two lectures or recitations on the fundamental principles of geometrical optics as applied to photographic instruments. The laboratory is devoted to the study of focal planes, images and other properties of lenses, together with the making of photographs. Students will furnish their supplies. Associate Professor Moran.

Prerequisites: Physics 1–a, 2–b, 3–c, or the equivalent. Not open to Freshmen. 1 lecture; 1 recitation; 1 laboratory; 3 credits.

15–a. Theory of Electrons. A brief study of the theory of electricity to include the passage of a current through a gas by ions, the mobility of ions, the determination of the charge and mass of an electron, ionization by collision, the corona discharge, cathode rays, positive rays, thermionic emission, photo-electricity, X-rays. Professor Howes.

Prerequisites: Physics 8–c and 11–c. Mathematics 7–a, 8–b, 9–c. Open only to Juniors and Seniors. Required of Seniors in Electrical Engineering. 2 lectures; 1 recitation; 3 credits.

17–a, 18–b, 19–c. Pre-Medical Physics. An intensive course in the general principles of physics with especial attention to the needs of students in preparation for medical work, such as the representation of data in graphical form, also the handling of electrical apparatus. A

working knowledge of high school algebra and geometry is presupposed. Assistant Professor Starke.

Open only to Juniors and Seniors in the Pre-Medical Curriculum. 3 recitations; 1 3-hour laboratory; 5 credits.

25–b. Advanced Physics for Teachers. The aim is to study the most difficult topics to teach to high school or academy students. One standard college text and several high-school texts are used as reference books. The seminar method is used. Professor Howes.

Prerequisite: A one-year course in college physics. Open only to Juniors and Seniors. 1 lecture; 2 recitations; 3 credits. (Given in alternate years.)

27–a, 28–b, 29–c. Applied Physics for Students in Architecture. Recitations and experiments with carefully criticized reports on the stresses in solids, pressure in fluids, transmission of heat, resonance of sound, intensity of light and distribution of illumination, the measurement of electric current, etc. Mr. Hartwell.

Required of Sophomores in Architecture. 3 recitations; 1 laboratory; 4 credits.

33–a, 34–b, 35–c. Household Physics. A study of the principles of physics with applications to household processes and appliances. The recitations will be based on a suitable text. Associate Professor Moran.

For Home Economics students only. Not open to Freshmen. 2 recitations; 1 laboratory; 3 credits.

37–c. Advanced Electrical Measurements. Lectures and recitations on electrical measurements and measuring instruments. Present laboratory facilities permit such experiments as, use of a precision potentiometer to calibrate a thermojunction, measure battery resistance etc., logarithmic decrement of a galvanometer, low resistance by Kelvin bridge, insulation resistance, various types of alternating current bridges for measuring capacity, self and mutual inductance and frequency. Other topics will be added as laboratory facilities permit. Associate Professor Moran.

Prerequisites: Physics 8–c and 11–c. Required of Seniors in Electrical Engineering. 1 recitation; 1 laboratory; 3 credits.

POLITICAL SCIENCE

THORSTEN KALIJARVI, *Associate Professor*
PHILIP G. NESERIUS, *Assistant Professor*

Courses in this department aim to give the student a thorough grounding in Political Science which should not only serve the purpose of general culture, but also prepare for more intensive work in fields of specialized study, such as law, teaching, politics, government service, and social work. Students are urged to supplement their work in Political Science with courses in Economics, History, and Sociology. The department, with view to broadening the student's range of ideas, or in preparation for research, recommends the acquisition of a reading knowledge of one or more foreign languages, preferably French and German.

GROUP I

ELEMENTARY COURSES

25–a, 26–b, 27–c. Citizenship. The purpose of this course is to acquaint the student with his rights and duties as a citizen. An effort will be made to acquaint him with fundamental principles which may be used for the solution of political problems. Special attention will be given to methods of voting, nominations, political parties, registration, and other matters with which the citizen comes into contact.

Public Lectures. A topic of vital political interest will be considered during the third hour each week by some prominent figure in local, state, or federal political life. These lectures, which are announced, will be open without registration to all who are interested.

Open to Sophomores, Juniors, and Seniors without prerequisite. 3 lectures or recitations; 3 credits.

GROUP II

INTERMEDIATE COURSES

28–a, 29–b, 30–c. American Government. A survey of federal, state, and municipal governments in the United States. This discussion includes the origin and development of American political institutions, the interrelation of governmental departments, the tendency of the federal government to expand its powers, the growth of municipal government, the relation of the city to the state, and the mechanism of city and county governments.

Open to Sophomores, Juniors, and Seniors. 3 lectures or recitations; 3 credits.

50–a, 51–b, 52–c. Comparative Government. A survey of the character, form and political practices of contemporary foreign governments. Some attention will be given to contemporary movements and developments. A comparison of the organs of governments as they are observed in action or as they may be evaluated in theory.

Open to Sophomores, Juniors and Seniors. 3 lectures or recitations; 3 credits.

53–a, 54–b, 55–c. International Law. The study of the law governing the relations among the various states. Primarily discussions supplemented by the weekly preparation of hypothetical cases. Associate Professor Kalijarvi.

Prerequisite: Pol. Sci. 27–c. Junior course. 3 lectures or recitations; 3 credits.

56–a, 57–b. Constitutional Law. The case study of the constitutional development of the United States in terms of supreme, federal, and state court decisions.

Prerequisite: Pol. Sci. 27–c. Junior course. 3 lectures or recitations; 3 credits.

58–c. Introduction to Jurisprudence. A study of the generalized principles of law and legal institutions. A systematic review of the law as a whole. Discussion and lecture.

Prerequisite: Pol. Sci. 55–c or 57–b. 3 lectures or recitations; 3 credits.

GROUP III

ADVANCED COURSES

75–a, 76–b, 77–c. Political Theory. A consideration of the ideas of the outstanding men in political thought, especially those of Plato, Aristotle, Cicero, St. Augustine, Aquinas, Dante, Machiavelli, Bodin, Hobbes, Locke, Montesquieu, and Rousseau. The chief schools in political philosophy are analyzed, and their political background evaluated. Attention is paid to the coherence evident in the unfolding of political thought. The work consists of directed reading.

Prerequisite: Two years' work in Political Science. Senior course. 3 lectures or recitations; 3 credits.

78–a, 79–b, 80–c. International Relations and World Government. A study of the forms of international organizations and world politics. This course deals with the rise of the modern nations and their relation

to each other. Special effort is made to acquaint the student with the international world in which he is living. Associate Professor Kalijarvi.

Prerequisite: Two years' work in Political Science. Open to Seniors majoring in History and Economics. 3 lectures or recitations; 3 credits.

81–a, 82–b, 83–c. Seminar. Papers will be prepared on assigned topics, and reports made under the guidance of the head of the department or a proxy. Associate Professor Kalijarvi.

For majors who have completed two years' work in Political Science. 1 to 4 credits.

POULTRY HUSBANDRY

T. Burr Charles, *Professor*
Carl L. Martin, *Assistant Professor*
Charles A. Bottorff, *Instructor*
Albert E. Tepper, *Instructor*

1–c. Farm Poultry. A general course in poultry husbandry, taking up the breeds, housing, incubation, brooding, feeding, breeding, culling and selection, and management. Professor Charles and Mr. Tepper.

Required of all Sophomores in Agriculture except those in Forestry. 2 lectures; 1 laboratory; 3 credits.

5–b. Poultry Management. This course is designed to correlate all phases of poultry management. As a part of the laboratory work, a detailed "three-year" development plan of a poultry farm will be studied. Professor Charles.

Prerequisite: Poultry 1–c. Required of all Seniors in Poultry. Elective for others. 3 lectures; 1 laboratory; 3 credits.

6–b. Poultry Diseases. A study of the anatomy of the fowl and the various common poultry diseases encountered in poultry practice with lectures and clinics on the methods of prevention and treatment. Mr. Bottorff.

Prerequisite: 1–c. Required of all Juniors in Poultry. Elective for others. 3 lectures; 1 laboratory; 4 credits.

7–b. Incubation. A study of the theories involved in incubation and brooding, with each student running an incubator and keeping all the necessary records. Professor Charles.

Prerequisite: Poultry 1–c. Required of all Seniors in Poultry. Elective for others. 2 lectures; 2 laboratories; 4 credits.

9–c. Poultry Feeding. A course dealing with the principles of feeding, and the comparative value of various grains and feeds used in poultry rations. Each student is obliged to do practical work in feeding and caring for a flock of hens. Professor Charles and Mr. Tepper.

Prerequisite: Poultry 1–c. Required of Seniors in Poultry and Teacher Training. Elective for others. 3 lectures; 2 laboratories; 4 credits.

10–a. Poultry Breeding. A course giving the theory and practice involved in breeding for egg production, including practical work in the selection of breeding stock. Professor Charles and Mr. Tepper.

Prerequisite: Poultry 1–c. Required of all Seniors in Poultry. Elective for others. 3 lectures; 3 credits.

11–b. Poultry for Teachers. This subject is designed to give to Teacher Training students the information which they will need in teaching Poultry courses in secondary schools. Open to Teacher Training students only. Mr. Tepper.

1 lecture; 1 laboratory; 2 credits.

12–c. Poultry Brooding. This is a laboratory course designed to give to students special information in the care and management of chicks. Professor Charles and Mr. Wilcox.

2 laboratories; 1 credit.

13–c. Poultry Practice. This course is designed to give the student practical work at some successful poultry plant in the hatching and rearing of chickens. The period of apprenticeship will extend from April 1 to September 1.

Required of all Juniors in Poultry. 18 credits.

NOTE: Students who have previously had this experience may substitute 18 credits of electives for this course.

14–a, 15–b, 16–c. Poultry Research. In this course the student makes a study of some poultry problem, getting such accurate and detailed information as will add materially to his fund of knowledge. Professor Charles and staff.

Required of all Seniors in Poultry. Hours to be arranged. 2 to 3 credits.

17–b. Poultry Marketing. A study of the market classes of poultry and eggs, their preparation for market and packages used. The storage of poultry, the storage and preservation of eggs and the judging and scoring of eggs are also studied. Mr. Tepper.

Required of all Juniors in Poultry. Elective for others. 3 lectures; 3 credits.

22–c. Design and Construction of Poultry Farm Equipment. Students design and construct various types of poultry houses and equipment. Professor Charles and Mr. Batchelder.

Required of all Seniors in Poultry. Elective for others. 1 laboratory; 1 credit.

23–a. Poultry Breeds and Judging. The history, characteristics and classification of the different breeds of poultry. Laboratory will consist of practice in judging and scoring of fowls from the utility and exhibition standpoint. Mr. Tepper.

Required of Poultry Seniors. Elective for others. 2 lectures; 1 laboratory; 3 credits.

31–a, 32–b, 33–c. Poultry Seminar. A seminar course where each student studies recent bulletins on poultry subjects, writes abstracts of them, and delivers to the class an opinion on these bulletins. Group discussions covering pertinent poultry topics will also be held. Professor Charles and staff.

Prerequisite: Poultry 1–c. Required of all Seniors in Poultry. Elective for others. 3 lectures; 2 credits.

SOCIOLOGY

ALBERT N. FRENCH, *Professor*
CHARLES NED ELLIOTT, *Instructor*

It is the purpose of this department to present to students, in a constructive manner, some of the major theories and principles, results of scientific investigations, and general information regarding associational activities and social relationships in their various forms.

In addition to general background and fundamental courses, special courses are designed (1) to supplement the work in other departments where a better understanding of social relations would be an asset, and (2) to offer preparatory professional courses to those anticipating the teaching of sociology, or engaging in social and personnel work.

It is recommended that majors in the Department of Sociology acquire fundamental training in Psychology and Zoölogy and add as preferred

electives such supplementary courses as Principles of Economics, or Political Science, or Philosophy (and when their backgrounds will permit, Economics 34–a, 35–b, 36–c, Philosophy 31–a, 32–b, 33–c, and Political Science 75–a, 76–b, 77–c and 58–c).

Professional requirement: Students expecting to enter social work requiring postgraduate work at professional schools should plan constructively for these professional requirements which are largely covered by such major requirements as combine Sociology, Psychology, Economics and Political Science.

Initial Course—Group A

Prerequisite: Sophomore Standing

14–a, 15–b, 16–c. Principles of Sociology. This elementary course aims to give the student a background for social relationships. It presents some of the viewpoints of modern sociologists; discusses some of the major social problems and social institutions; sets forth and analyzes the basic principles of sociology as related to the foundations of social life; suggests the development of personality, isolation versus social interaction, and social control. Professor French and Mr. Elliott.

Required of all majors in Sociology. 3 lectures; 3 credits.

Secondary Courses—Group B

Prerequisites: Junior standing and Sociology 14–a, 15–b, and 16–c.

17–a, 18–b. Social Psychology. An analytic study of human traits and values in so far as these are basic to a study of social personality and social well-being. Professor French.

Required of all majors. Prerequisite: 3 terms of major standing or instructor's permission to register. 3 lectures; 3 credits.

19–c. Social Dynamics. A synthetic study of the principles of social change, social conflict, social mobility, etc., in light of modern biology, psychology, education and other social sciences. Professor French.

Prerequisite: Preliminary study in General Psychology or Philosophy 33–c. 3 lectures; 3 credits. (Not given in 1933–34.)

23–a. Elements of Anthropology. It is the purpose of this course to treat the characteristics of prehistoric races and their culture, together with the criteria used in distinguishing various human races and stages

of culture; to study specifically the psychological and sociological implications involved in rites, beliefs, and other cultural acquisitions of Man. Professor French.

3 lectures; 3 credits. (Not given in 1933–34.)

22–b. Social Emergence. A synthetic study in social amelioration, social evolution and the backgrounds of social work. Professor French.

3 lectures; 3 credits. (Not given in 1933–34.)

29–c. Human Relations. This course is a study of educational procedures considered in the light of psychological theory and the principles of sociology. Professor French.

Required of Seniors in Home Economics Teacher Training.
3 lectures; 3 credits.

10–a, 11–b. History of Social Thought. This elementary survey of the social aspects of intellectual history includes a comparative study of the writings of early social theorists. Particular attention will be given to the development of outstanding concepts and theories deemed necessary as a cultural background. Mr. Elliott.

3 lectures; 3 credits.

12–c. Development of Social Theory. A study of recent and approved social theory which supplements the history of social thought as given in 10–a, 11–b. Mr. Elliott.

3 lectures; 3 credits.

27–a. Criminology. This subject presents a general survey of the theories of crime; the causes of crime from the viewpoint of personality and the social situation; and the aims underlying the treatment of offenders. Professor French.

3 lectures; 3 credits.

28–b. Urban-Rural Sociology. This course is a survey of certain problems and conditioning factors and influences of community life, trends in quality and quantity of population and of suggested remedial measures for improvement. Professor French.

3 lectures; 3 credits.

26–c. Social Research. A general treatment of the technique in gathering data and the various methods of evaluation. Certain comprehensive problems like marriage and the family, criminology, social work, etc., will be studied by appropriate methods. Professor French.

Required of all majors. 3 lectures; 3 credits.

24–a. Population Problems. This course consists of theories and policies of population; the increase of numbers; the problems of quality as affected by the differential birth rate, migrations, and racial mixtures; the sociological effects of cultural diffusion; and the control of population increase. Professor French.

2 lectures; 3 credits.

25–b. Immigration and Assimilation. This course deals with immigrant backgrounds, immigrants, their children and grandchildren. It traces the natural process of assimilation, showing the conflicts and adjustments peculiar to each generation.

2 lectures; 3 credits.

30–c. History and Survey of Social Work. The purpose of this course is to give an insight into the nature of social work and recreation. Professor French.

3 lectures; 3 credits.

Advanced Courses—Group C

Prerequisite: Senior standing and permission of the professor in charge.

50–a, 51–b, 52–c. Seminar: Sociological Research. Provision is here made for social research. Typical methods involved in the technique are studied and illustrated; opportunity is given to pursue the following subjects:

(a) A seminar in population problems.
(b) A seminar in social research.
(c) A seminar in social theory.

Prerequisite: A major in Sociology or the equivalent; otherwise by invitation. Credit to be arranged.

62–c. Seminar: Professional Research. Opportunity is furnished for supervised field work in family welfare visitation and in hospital social work. Professor French.

Prerequisite: Major and professional standing in social work.

Limited credit if approved by the Dean of the College of Liberal Arts and head of the department.

ZOÖLOGY

C. Floyd Jackson, *Professor*
Alma D. Jackson, *Associate Professor*
Edythe T. Richardson, *Assistant Professor*
Charles E. Packard, *Instructor*
Ruth E. Thompson, *Instructor*
Marjorie W. Monroe, *Assistant*
Cecil V. Creath, *Assistant*
Clyde W. Monroe, *Assistant*

Courses in the Department of Zoölogy are divided as follows:

Group A is primarily for Liberal Arts students, pre-medical students, and those majoring in Zoölogy. Students from other courses may, however, elect from this group, provided they have the proper prerequisites.

Group B includes the required courses in Agriculture and Home Economics, as well as certain other electives for either Agriculture, Home Economics or Liberal Art students.

Group C includes advanced courses primarily for major or pre-medical students.

Note: Students desiring to prepare for medical or dental schools will consult the head of the department.

Students pursuing the regular Pre-Medical Curriculum must obtain a grade of 75 or better in at least 36 credits during their junior and senior years.

Group A. Liberal Arts Courses

1–a, 2–b, 3–c. Principles of Zoölogy. An elementary study of the principles of life, its development, structural basis and physiological activity. The course is continuous throughout the year. This course is intended to give a practical knowledge of animal life, and is required of all pre-medical students and others intending to major in the Department of Zoölogy. Professor Jackson, Mr. Packard, Miss Thompson, Mrs. Monroe, Mr. Monroe, and Mr. Creath.

Freshman course. *This is a year-course when required of or elected by students in the College of Liberal Arts.* 2 lectures; 1 recitation; 1 laboratory; 4 credits.

13–a, 14–b, 15–c. Hygiene and Sanitation. A detailed study of the principles of health preservation. The course deals with hygiene of

digestion, muscular hygiene, neural hygiene, and various other important physiological processes affecting health. The latter half of the work is devoted to a study of food, water, and general sanitation, and the control of bacterial disease. The course is continuous throughout the year. Professor Jackson and Miss Thompson.

Prerequisite: One year of Zoölogy. 3 lectures or recitations; 3 credits.

16–a, 17–b, 18–c. Evolution and Eugenics. Lectures and assignments dealing with the various problems of evolution and their relation to human life. Evidence of man's origin based on anatomical, embryonic, and paleontological data will be discussed. This will be followed by a consideration of the chief problems of eugenics. Professor Jackson and Miss Thompson.

Prerequisite: Two years of Zoölogy. 3 lectures or recitations; 3 credits.

19–a, 20–b, 21–c. Advanced Zoölogy. Arranged to suit the needs of students who wish to specialize in Zoölogy. Two lectures a week will deal with the teaching of Zoölogy; methods of presenting the subject both in high schools and colleges; methods of conducting laboratory classes; the grading of examination papers and the preparation of laboratory material. In addition students may choose for laboratory work some special subject for investigation. Professor Jackson.

Prerequisite: This course may not be elected except by students who have completed at least 28 credits in Zoölogy or Entomology with an average grade of at least 80. Open only to students by special permission. Credit and hours to be arranged.

22–a, 23–b, 24–c. General Taxonomy and Morphology. A study of the structure, classification, habits, and ecological relationships of the different groups of invertebrate animals, and the classification and ecological relationships of the vertebrates. The purpose of this course is to acquaint the student with a large number of type forms, and with the identification, habits, and habitats of the common invertebrate and vertebrate animals.

Required of Zoölogy majors. Prerequisite: One year of Zoölogy. 2 lectures or recitations; 1 laboratory; 3 credits.

Group B. Required Courses

30–b, 31–c. General Zoölogy. A detailed study of the fundamental principles of life; the nature and physiology of protoplasm; the struc-

ture of the cell and the processes of cell division. The structure and physiology of man will be discussed in detail. Mr. Packard.

Required of Freshmen in Agriculture. 2 lectures or recitations; 1 laboratory; 3 credits.

32–a. Genetics. A detailed study of the physical basis of inheritance, laws governing Mendelian inheritance, and the application of such laws to plant and animal breeding. (Same content as 50–c.) For agricultural students. Assistant Professor Richardson.

2 lectures or recitations; 1 laboratory; 3 credits.

Group C. Advanced Major and Pre-Medical Courses

36–a, 37–b, 38–c. Histology. A study of the detailed structure of vertebrate animals, cell specialization and the manner in which tissues are combined into organs. The course is of special interest to pre-medical students, those interested in becoming laboratory technicians or in teaching zoölogy. For additional laboratory technique, see the instructor. Associate Professor Jackson.

Prerequisite: Two years' work in Zoölogy. Junior course.
3 lectures or recitations; 1 laboratory; 4 credits.

39–a, 40–b, 41–c. Embryology. A detailed study of invertebrate and vertebrate embryos and their method of development. The first term's work is a brief résumé of invertebrate embryology for six weeks. Protochordata one week, and the remainder of the term on vertebrates, closing with the development of the frog. The second term is spent entirely on the chick. The third term deals with mammalian embryology, the last half being spent on human embryology. Lectures and textbooks are used throughout the course. Laboratory work is on type specimens of available embryos. The course is primarily for pre-medical and advanced zoölogy students. Associate Professor Jackson.

Prerequisite: Two years' work in Zoölogy. Senior course.
3 lectures or recitations; 1 laboratory; 4 credits.

42–a, 43–b, 44–c. Advanced Physiology. An advanced study of human physiology with special emphasis on nutrition, circulation, respiration, excretion and secretion. The work will consist of lectures, assigned topics and laboratory experiments. Assistant Professor Richardson.

Prerequisite: Two years' work in Zoölogy. 3 lectures or recitations; 1 laboratory; 4 credits.

45–a, 46–b, 47–c. Comparative Anatomy and Physiology of the Vertebrates. A careful study of the anatomy and physiology of the vertebrate animals. The first term's work is osteology and myology; the second term considers the digestive and vascular systems; the third, respiratory, excretory, reproductive, and endocrine systems. Laboratory dissections are made of each type of vertebrate. This is a fundamental course for pre-medical students, or those interested in advanced zoölogy. Mr. Packard.

Prerequisite: Zoölogy 3–c. Sophomore course. 3 lectures or recitations; 1 laboratory; 4 credits.

48–a, 49–b, 50–c. Cytology and Genetics. A detailed study of the cell, including morphology, the chemical and physical nature of protoplasm, mitosis, meiosis, syngamy, and related phenomena leading up to the physical basis of inheritance and the study of Mendel's laws, the expression and interaction of the genes, linkage, sex and its inheritance, the inheritance of quantitative characters, and the types and causes of variations. Assistant Professor Richardson.

Prerequisite: Two years' work in Zoölogy. 3 lectures or recitations; 1 laboratory; 4 credits. (Given in alternate years; not given in 1933–34.)

51–a, 52–b, 53–c. Advanced Neurology. A comparative study of the nervous systems of the lower animals and a detailed study of the morphology, physiology, and histology of the human nervous system. This subject is intended to give a practical knowledge of the nervous system and its operation. Assistant Professor Richardson.

Prerequisite: Two years' work in Zoölogy. 3 lectures or recitations; 1 laboratory; 4 credits. (Given in alternate years; given in 1933–34.)

Zoölogy 100–a, –b, –c. Zoölogy Honors. Each term the head of the Department of Zoölogy will permit not more than two percent of the most proficient students in Zoölogy to transfer to this course. This will consist of the work elected and such additional work as may be prescribed, which will include conferences and a thesis; to be followed at the close of the term with a comprehensive examination which may include all previous work taken in the department.

Prerequisites: Special appointment. Credit: To be arranged.

THE TWO-YEAR CURRICULUM IN AGRICULTURE

M. GALE EASTMAN, *Associate Dean*

The Two-Year Curriculum in Agriculture established in 1895 affords a splendid opportunity for the farm boys of the state to acquaint themselves with the fundamental principles and with the latest and most approved practices of agriculture. This curriculum is arranged especially for the young men who wish to make a business of dairying, livestock raising, poultry, horticulture or general farming, but who do not have the time, money or preparation to take a regular four-year curriculum.

The classes of the two-year curriculum are for the most part separate and distinct from those of the four-year curricula. The work of the first year is largely a study of the sciences like bacteriology, chemistry, botany, and physiology which underlie successful plant and animal production. In short, the student is made to understand the scientific reasons for common farm practices. The second year contains numerous elective courses which make it possible for students to spend at least two-thirds of their time in specializing in some particular line of work in which they expect to engage later on.

The two-year curriculum now consists of three terms of about twelve weeks each for two years. Students may enter at the beginning of the winter or spring terms, although they are advised to enter only at the beginning of the curriculum in September. The work of this curriculum is made as thorough and practical as the limited time will permit. The students are given practice both in the laboratory and in the field in doing many of the very things which are taught them in the classroom.

Military Science is not required of two-year students, but any student desiring to take the course may elect it with the four-year students.

A student who meets the entrance requirements of the University may receive credit, towards graduation from a four-year curriculum in the College of Agriculture, for work completed with a grade of 75 or better in certain agricultural courses of the two-year curriculum.

Entrance Requirements.—The two-year curriculum is open to both young men and young women. The only entrance requirements are a common school education involving a reasonable knowledge of reading, writing, spelling, arithmetic, English grammar, geography, and United States history. The curriculum is best adapted to students from 17 to

21 years of age. Older students frequently take the curriculum, but younger ones are not encouraged to enter.

Tuition and Fees.—The tuition for students who are residents of New Hampshire is $75 per year. For out-of-state students the tuition is $175 per year. One-third of the tuition is payable at the beginning of each term.

Scholarship.—The University grants to residents of the state a limited number of scholarships which cover the tuition charges. Students desiring to secure scholarships should apply to the Dean of the Faculty, Durham, N. H.

Expenses.—The expenses of this curriculum will vary with the tastes and frugality of the students. An estimate of the expenses for one year is as follows:

	High	*Average*	*Low*
Tuition	$175	$75	
Books	30	25	$22
Room	120	72	63
Board	200	200	175
Laundry	35	20	15
Incidentals	50	30	25
	$610	$422	$300

Farm Experience Requirement.—In order to graduate from this curriculum every student must present satisfactory evidence of having had practical experience in farm work, either through having worked on a farm for at least two years after he was 12 years of age, or through having worked on a farm for at least four months after he was 15 years of age.

Opening—Closing.—The curriculum for this year will open Monday, September 18, 1933, and will close Monday, June 18, 1934. A Christmas recess of two weeks and a spring recess of seven days is given.

Certificate of Graduation.—No degree is given at the end of this curriculum, but a "Certificate of Graduation" is presented to all students who complete the prescribed curriculum of 96 credits or its equivalent.

TWO-YEAR CURRICULUM

First Year

	Fall Term Credits	*Winter Term Credits*	*Spring Term Credits*
Convocation (*Required*)			
Phys. Ed. 51–a, 52–b, 53–c	½	½	½
Eng. 201–a, 202–b, 203–c (*Grammar and Composition*)	3	3	3
Agr'l Chem. 201–a, 202–b (*Chemistry*)	3	3	
Bot. 201–a, 202–b (*Elements of Botany*)	3	2	
Agr'l Eco. 203–a (*Rural Economics*)	3		
*D. H. 201–a (*Farm Dairying*)	4		
Agr'l Eco. 202–b (*Farm Records and Accounts*)		2	
*A. H. 201–b (*Types and Breeds*)		3	
M. E. 201–b (*Agricultural Drawing*)		2	
Bot. 203–c (*Plant Diseases*)			2
*For. 201–c (*Farm Forestry*)			3
M. E. 202–c (*Forge Work*)			1
M. E. 203–c (*Wood Shop*)			2
Hort. 201–c (*Fruit Growing*)			3
Zoöl. 201–c (*Physiology and Hygiene*)			3
	16½	15½	17½

Second Year

Convocation (*Required*)			
Agron. 202–a (*Field Crops*)	4		
Agron. 203–b (*Soils*)		3	
Ento. 201–b (*Economic Entomology*)		3	
Agron. 201–c (*Farm Equipment*)			3
Electives from courses listed below	12	10	11½
	16	16	14½

Electives

Agr'l Eco. 204–a (*Agricultural Marketing*)	3		
Agr'l Eco. 205–a (*Farm Statistics*)	2		
A. H. 203–a (*Anatomy*)	3		
A. H. 205–a (*Animal Breeding*)	4		
Hort. 203–a (*Greenhouse Management*)	3		
Hort. 207–a (*Advanced Horticulture*)	1–3		
P. H. 201–a (*Farm Poultry*)	3		
P. H. 205–a (*Poultry Breeding*)	3		
P. H. 208–a (*Breeds and Judging*)	3		
Agr'l Eco. 201–b (*Farm Management*)		3	
Agron. 204–b (*Manures and Fertilizers*)		3	
A. H. 202–b (*Feeds and Feeding*)		3	
A. H. 204–b (*Animal Diseases*)		3	
D. H. 202–b (*Dairy Manufactures*)		4	
Hort. 204–b (*Home Decoration*)		3	
Hort. 205–b (*Orchard Problems*)		3	
Hort. 208–b (*Advanced Horticulture*)		1–3	
P. H. 203–b (*Poultry Diseases*)		4	
P. H. 206–b (*Incubation*)		4	
P. H. 209–b (*Poultry Marketing*)		3	
A. H. 206–c (*Animal Diseases*)			3
D. H. 203–c (*Dairy Production*)			3
Hort. 202–c (*Vegetable Gardening*)			3
Hort. 206–c (*Small Fruits*)			3
Hort. 209–c (*Beekeeping*)			3
Hort. 210–c (*Advanced Horticulture*)			1–3
P. H. 204–c (*Poultry Feeding*)			4
P. H. 207–c (*Poultry Brooding*)			1

* Students desiring to specialize in Poultry may substitute P. H. 201–a, 203–b and 204–c for these courses.

* DESCRIPTION OF COURSES OF TWO-YEAR CURRICULUM IN AGRICULTURE

AGRICULTURAL ECONOMICS

201–b. Farm Management. Textbook, lectures, and recitations relating to farming as a business. Problems of marketing, buying, size, cropping systems, balance in organization, etc. Assistant Professor Grinnell.

Elective second year. 2 lectures; 1 laboratory; 3 credits.

202–b. Farm Records and Accounts. Lectures and practical farm problems relating to the use of accounts and research information in farming. Actual farm figures used. Assistant Professor Grinnell.

Required first year. 1 laboratory; 2 credits.

203–a. Rural Economics. Intended to acquaint the Two-Year man with some of the outstanding agricultural questions of the present time and their relation to theoretical and practical economics. Assistant Professor Grinnell.

Required first year. 3 lectures; 3 credits.

204–a. Agricultural Marketing. A consideration of the increasing importance of marketing and some of its attendant problems. Special phases of coöperative marketing developed. Assistant Professor Grinnell.

Elective second year. 3 lectures; 3 credits.

205–a. Farm Statistics. An elementary course dealing with problems of chance in everyday occurrences, and with some consideration of dispersion and correlation. Professor Eastman.

Prerequisite: Algebra. Elective second year. 1 lecture; 1 laboratory; 2 credits.

AGRONOMY

(Agricultural Engineering)

201–c. Farm Equipment. A subject particularly designed for the farm manager or foreman. Remodeling, repair and upkeep of farm buildings and equipment. Selection, care, repair and methods of use of electrical equipment, field machinery, engines, light plants, motors and

* Only Two-Year students in Agriculture are admitted to these courses, except by special arrangement with the Associate Dean.

tractors. Surveying, drainage and sanitation. Assistant Professor Ackerman.

Required second year. 2 lectures or recitations; 1 laboratory; 3 credits.

202–a. Field Crops. A study of the most important crops in New England with special emphasis on those of this State. Attention will be given to their history, value, production, management and use. The laboratory work will be as practical as possible, including identification in the laboratory and field, judging and farm seed testing. Assistant Professor Higgins.

Required second year. 3 lectures or recitations; 1 laboratory; 4 credits.

203–b. Soils and Soil Management. A study of the basic physical, chemical and biological properties of soils. Added consideration will be given to soil management, concerning systems of maintaining and building up productive soils. Laboratory work will serve to illustrate the more important principles studied. Assistant Professor Higgins.

Required second year. 2 lectures or recitations; 1 laboratory; 3 credits.

204–b. Manures and Fertilizers. A study of the occurrence and function of plant food in soils, and its relation to crop production. Attention will be given to the production, care and use of manure and to the selection and mixing of fertilizers. The response of various crops to different fertilizer elements will be discussed. Associate Professor Prince.

Elective second year. 3 lectures or recitations; 3 credits.

ANIMAL HUSBANDRY

201–b. Types and Breeds of Livestock. A study of the different breeds of horses, cattle, sheep, and swine in respect to their origin, history, development, characteristics, and adaptability to different conditions of climate and soil. One afternoon each week is devoted to judging the different breeds. Associate Professor Tirrell.

Required first year. 3 lectures or recitations; 1 laboratory; 3 credits.

202–b. Feeds and Feeding. An elementary study of the laws of nutrition, the character, composition, and digestibility of feed stuffs, and the methods of feeding different kinds of farm animals. Numerous samples of grains and by-products are used for the purpose of familiariz-

ing the students with the different feed stuffs. Practice is given in calculating rations for various purposes. Associate Professor Tirrell.

Required second year. 3 lectures or recitations; 3 credits.

203–a. Anatomy of Farm Animals. Same as A. H. 4–a. 3 credits. Assistant Professor Martin.

204–b. Animal Diseases. Same as A. H. 5–b. 3 credits. Assistant Professor Martin.

205–a. Animal Breeding. Same as A. H. 7–a. 4 credits. Associate Professor Tirrell.

206–c. Animal Diseases. Same as A. H. 6–c. 3 credits. Assistant Professor Martin.

BOTANY

201–a. Elements of Botany. In this course the student is given a succinct account of the form and structure of plants, and of how plants grow and feed. Mr. Dunn.

Required first year. 2 lectures or recitations; 2 laboratories; 3 credits.

202–b. Elements of Botany. Similar to 201–a. Mr. Dunn.

Required first year. 2 lectures or recitations; 1 laboratory; 2 credits.

203–c. Fungous Diseases of Plants. The principal fungous diseases, their cure and their prevention. Mr. Dunn.

Required first year. 1 lecture; 1 laboratory; 2 credits.

AGRICULTURAL CHEMISTRY

201–a. Agricultural Chemistry. A study of the elementary principles of chemistry, with special emphasis upon the elements of importance in agriculture. Professor Phillips and Mr. Mecheski.

Required first year. 2 lectures or recitations; 1 laboratory; 3 credits.

202–b. Agricultural Chemistry. Elements of the chemistry of plants, soils, fertilizers, lime, foods and animal physiology. Professor Phillips and Mr. Mecheski.

Prerequisite: Agricultural Chemistry 201–a. Required first year. 2 lectures or recitations; 1 laboratory; 3 credits.

DAIRY HUSBANDRY

201–a. Farm Dairying. A general study of milk and its products. Mr. Moore.

Required first year. 3 lectures or recitations; 1 laboratory; 4 credits.

202–b. Manufacturing Dairy Products. Producing, handling and distributing milk; manufacturing and distributing ice cream, butter, condensed milk and other dairy products. Mr. Moore.

Prerequisite: D. H. 201–a. Elective second year. 3 lectures or recitations; 1 laboratory; 4 credits.

203–c. Dairy Production. The field of dairy husbandry in its relation to the producer. Care, feeding and management of dairy animals; dairy herd development; dairy cattle judging. Professor Fuller.

Elective second year. 3 lectures or recitations; 1 laboratory; 3 credits.

ENGLISH

201–a, 202–b, 203–c. Grammar and Elementary Composition.

Required first year. 3 lectures or recitations; 3 credits.

ENTOMOLOGY

201–b. Principles of Economic Entomology. The relation of the structure and classification of insects to methods of insect control. The preparation and application of insecticides. Spray machinery and appliances. Professor O'Kane and Mr. Conklin.

Required second year. 2 lectures or recitations; 1 laboratory; 3 credits.

FORESTRY

201–c. Farm Forestry. The care and management of farm woodlots; log and board scaling; logging and milling; estimating standing timber; protection from fire, insects, fungi, etc.; thinning immature stands; seeding and planting; natural regeneration. Assistant Professor Stevens.

Required second year. 2 lectures or recitations; 1 laboratory; 3 credits.

HORTICULTURE

201–c. Fruit Growing. This course embraces a study of commercial orcharding. Each fruit is studied with reference to planting, cultivating, pruning, fertilizing, picking, packing, storing and marketing. Professor Potter.

Required first year. 2 lectures or recitations; 1 laboratory; 3 credits.

202–c. Vegetable Gardening. A study of the methods of commercial vegetable growing. Special attention is given to the home garden. Associate Professor Hepler.

Elective second year. 2 lectures or recitations; 1 laboratory; 3 credits.

203–a. Greenhouse Management. Combined lecture, demonstration and laboratory work in greenhouse management. Mr. Macfarlane.

Elective second year. 2 lectures or recitations; 1 laboratory; 3 credits.

204–b. Home Landscape Improvement. A study of the ornamental trees, shrubs, vines, and herbaceous plants, with respect to their use and proper arrangement on the home grounds. Mr. Clapp.

Elective second year. 2 lectures or recitations; 1 laboratory; 3 credits.

205–b. Orchard Problems. This course deals with the principal problems of farm and commercial orchard management. It is designed to show the application of the principles of fruit growing to practical conditions. Assistant Professor Latimer.

Elective second year. 3 lectures or recitations; 3 credits.

206–c. Small Fruits and Plant Propagation. A study of the propagation of horticultural plants and the culture and marketing of miscellaneous small fruits including the strawberry, cranberry, raspberry, blackberry, grape, and blueberry. This course will also include a brief study of the principles of plant breeding. Assistant Professor Latimer.

Elective second year. 2 lectures or recitations; 1 laboratory; 3 credits.

207–a, 208–b, 210–c. Advanced Horticulture. Special work in any phase of horticulture may be taken by arrangement with the head of the department. Professor Potter and staff.

Prerequisites will depend upon the work taken. Elective second year. Hours and credits to be arranged.

209–c. Beekeeping. This course deals with the life history and habits of honey bees with special reference to apiary conditions. The laboratory work consists of practice in handling bees, construction and use of hives, hive fittings, and winter cases. Associate Professor Hepler.

Elective second year. 2 lectures or recitations; 1 laboratory; 3 credits.

POULTRY HUSBANDRY

201–a. Farm Poultry. A general course designed especially for two-year students who are going back to the farm to take up practical poultry work. The course will include work in managing, feeding, housing, breeding, incubation, brooding, and marketing, with laboratory work as practical as can be made. Professor Charles and Mr. Tepper.

2 lectures or recitations; 1 laboratory; 3 credits.

202–b. Poultry Management. Same as P. H. 5–b. 3 credits. Professor Charles.

203–b. Poultry Diseases. Same as P. H. 6–b. 4 credits. Mr. Bottorff.

204–c. Poultry Feeding. Same as P. H. 9–c. 4 credits. Professor Charles and Mr. Tepper.

205–a. Poultry Breeding. Same as P. H. 10–a. 3 credits. Professor Charles and Mr. Tepper.

206–b. Incubation. Same as P. H. 7–b. 4 credits. Professor Charles.

207–c. Poultry Brooding. Same as P. H. 12–c. 1 credit. Professor Charles.

208–a. Breeds and Judging. Same as P. H. 23–a. 3 credits. Mr. Tepper.

209–b. Poultry Marketing. Same as P. H. 17–b. 3 credits. Mr. Tepper.

MECHANICAL ENGINEERING

201–b. Agricultural Drawing. A brief study of the use of drafting instruments, followed by sketches and working drawings of wood and

concrete construction as applied to farm mechanics and farm buildings. Mr. Uicker.

2 laboratories; 2 credits.

202–c. Forging. This is a study of the forging of iron and steel, and is designed to teach the operations of drawing, upsetting, welding, twisting, splitting and punching. A study is made of the construction, care, and management of the forge, and instruction is given in tempering, case hardening and annealing. Mr. O'Connell.

1 laboratory; 1 credit.

203–c. Wood Shop. Farm carpentry and joinery. Care and use of tools, making of implements for the farm, and care of lumber on the farm. Mr. Batchelder.

2 laboratories; 2 credits.

ZOÖLOGY

201–c. Human Anatomy and Physiology. A general survey of the structure and physiology of the human body. The most important principles of hygiene will be pointed out from time to time as various systems are discussed. Mr. Packard.

Required first year. 3 lectures or recitations; 3 credits.

NEW HAMPSHIRE AGRICULTURAL EXPERIMENT STATION

JOHN C. KENDALL, *Director*

The New Hampshire Agricultural Experiment Station, a branch of the University, was established by the state, August 4, 1887, under an act of Congress of March 2 of that year. This and subsequent acts appropriated funds for conducting research work on agricultural problems in New Hampshire and throughout the nation.

The investigations conducted by the Experiment Station vary according to their nature, some lasting through one season only and some covering a period of years. The projects of the Station which now number 84 include fundamental investigations to determine the underlying principles of agricultural science and others of more practical application.

Appropriations from the state also enable the Experiment Station to conduct a limited amount of state service work on agricultural problems. Advantage of the opportunities offered by the Experiment Station has been taken by the state in connection with the tests of seeds, fertilizers, and feeding stuffs; and samples of these collected by the State Department of Agriculture are tested at the Station laboratories each year, in accordance with legislative enactments.

Information relating to agricultural practices is supplied by the various departments and entails a large volume of correspondence in answer to individual inquiries. Samples of soil are tested; plants and insects are identified; blood samples from hens are tested, and *post mortem* examinations of animals made.

The library of the Experiment Station, which is open daily to students and visitors, contains complete files of all bulletins issued by the experiment stations in other states, all United States Department of Agriculture bulletins, and many other reports, bulletins and records as well as books of agricultural value.

Publications of the Station comprise 268 bulletins of the regular series and 39 circulars, 52 technical bulletins, 38 scientific contributions and 4 school bulletins. The publications cover a wide range of subjects and contain the information gathered by the experts of the Station while working on the various projects. The bulletins are issued at regular intervals, and notices of publications are sent to all residents of New Hampshire requesting them.

UNIVERSITY OF NEW HAMPSHIRE EXTENSION SERVICE

(AGRICULTURE AND HOME ECONOMICS)

JOHN C. KENDALL, *Director*

What the colleges and universities are to those young men and women who come within their walls, the Extension Service is, only to a lesser degree, to the thousands who are beyond the reach of the classroom.

The teachings of the college and the findings of the Experiment Station and the United States Department of Agriculture are now being carried to farms and homes throughout the state by a regularly established force of field workers. A coöperative arrangement was first made possible in 1914 between the United States Department of Agriculture, the state college and the counties of the state by the Smith-Lever Act of Congress, which appropriated funds to be offset by each state. This arrangement was extended by the State Legislature of 1925, which passed a special extension appropriation for county work, and by the Capper-Ketcham and other supplementary acts of Congress. There are now ten agricultural agents in the ten counties, ten home demonstration agents, and ten boys' and girls' club agents and four assistant agents. Farm management, dairying, forestry, soils and crops, poultry, horticulture, marketing, nutrition, clothing and home management demonstrations are also conducted with specialists in charge.

The Extension Service works largely through a group of rural people known as the Farm Bureau, one of which has been formed in each county. With its corps of fifty-two men and women the Extension Service relieves the college teaching staff and station workers from much of the miscellaneous extension work which they handled in the past. It also carries the work to a much larger public and carries it in a much more intimate way than it would otherwise be possible to do.

The publications of the Extension Service comprise 167 press bulletins, 141 circulars and 41 bulletins. Notices of new bulletins are sent to a mailing list, which is maintained in coöperation with the Experiment Station. Bulletins are sent free to all who request them.

Reading courses in fifteen subjects in agriculture and home economics, prepared by members of the resident college staff, are offered during the winter months.

DEGREES AND HONORS, 1932

At the Sixty-second Annual Commencement Exercises, Monday, June 13, 1932 at which S. Parkes Cadman, D.D., LL.D. of Brooklyn, New York, made the Commencement address, President Edward M. Lewis conferred the following degrees and certificates:

HONORARY DEGREES

DOCTOR OF LAWS

Grace Abbott, Washington, D. C.

DOCTOR OF LETTERS

Lewis Perry, Exeter

MASTER OF ARTS

Mary Hill Coolidge, Center Sandwich
Robert Brown Kerr, Manchester

MASTER OF SCIENCE

John Ironside Falconer, Columbus, Ohio.

ADVANCED DEGREES

MASTER OF ARTS

In Language (French):

Marc Emilien Richard, A.B., Assumption College, 1931, Dover
Minor: Education.
Thesis: "C'est à vous à —— et —— de ——."

MASTER OF EDUCATION

In Education:

Chester Winfield Doe, A.B., Harvard, 1910, Northwood
Minor: Education and English.

Philander Leon Mann, B.S., New Hampshire, 1930, East Concord
Minor: Sociology.

Flora Lillian Mayer, B.S. Ed., Salem Normal, 1929, Concord

James Philip McCann, B.A., New Hampshire, 1930, Dover
Minor: History.

James Diamond Osgood, B.S., New Hampshire, 1929, Pittsfield

Perley Henry Pease, B.S., New Hampshire, 1926, Exeter
Minor: Zoölogy.

Alice May Perkins, B.S., New Hampshire, 1927, Dover
Minor: Zoölogy.
Howard Eugene Swain, B.S., New Hampshire, 1916, Exeter
Elizabeth Adams Varney, A.B., Wellesley College, 1930, Somersworth
Charles Monroe Walker, B.A., New Hampshire, 1931, Maynard, Mass.
Minor: English.

MASTER OF SCIENCE

In Agricultural and Biological Chemistry:

Howard Marston Hunter, B.S., Purdue University, 1930, Hamilton, Ohio
Minor: Zoölogy.
Thesis: "The Effect of Ammonium Chloride on the Nitrogen Metabolism of Etiolated Seedlings."

In Chemistry:

David Bean Kellam, B.S., New Hampshire, 1930, North Conway
Minor: Agricultural and Biological Chemistry.
Thesis: "Preparation and Derivatives of Hexanol-1 and 4-Methyl-Pentanol-1."
Wilfred Burleigh Krabek, B.S., New Hampshire, 1929, Dover
Thesis: "An Attempt to Separate Germanium and Arsenic."
Walter Henry Lyford, Jr., B.S., New Hampshire, 1930, Epping
Minor: Agricultural and Biological Chemistry.
Thesis: "Studies of the Separation of Cerium from the other Rare Earths by Fusion with Magnesium Nitrate."

In Entomology:

George Louie Walker, B.S., Mississippi A. and M. College, 1931, Sumner, Miss.
Minor: Botany and Horticulture.
Thesis: "Toxicity of Certain Organic Chemical Compounds with Relation to Specific Areas of the Integument of Certain Insects."

In Forestry:

Henry Russell Francis, B.Sc., Massachusetts Agricultural College, 1910, Fayetteville, N. Y.
Minor: Economics.
Thesis: "The Vacation Industry of Sandwich, N. H."

In Horticulture:

Neil Wade Stuart, B.S., Michigan State College, 1929, Clarksville, Mich.

Minor: Agricultural and Biological Chemistry.

Thesis: "Nitrogen and Carbohydrate Metabolism of Young Apple Trees as Affected by Excessive Applications of Sodium Nitrate."

In Mathematics:

Charles Arthur Sewell, B.S., New Hampshire, 1929, Dover

Minor: Education.

Thesis: "On Certain Problems of the Calculus of Variations."

In Psychology:

George Ryder Faxon, B.A., Harvard College, 1928, Mattapan, Mass.

Minor: Education.

Thesis: "Testing Deception by Word Association."

In Sociology:

Ruth Celia Towle, B.S., New Hampshire, 1930, Conway

Minor: Zoölogy.

Thesis: "A Study of Certain Units of Behavior and Their Implications."

In Zoölogy:

Robert Ladd Richards, B.S., New Hampshire, 1931, Dover

Minor: Agricultural and Biological Chemistry.

Thesis: "The Prenatal Effects of Carbon Monoxide on the Albino Rat."

BACCALAUREATE DEGREES CONFERRED (280)

BACHELOR OF SCIENCE

College of Agriculture (13)

Name	Course	P. O. Address
Ennio Abbiatti	*For.*	*Barre, Vt.*
Fred Ernest Allen	*A. H.*	*North Hampton*
Waldorf Ray Bartlett, Jr.	*Hort.*	*Newport*
Joseph True Brown	*Gen.*	*Deerfield*
Henry Albert Davis	*Agr. Ch.*	*East Sullivan*
Karl Edwin Fish	*Gen.*	*Peterborough*

Name	Course	P. O. Address
Henry George Martin	*D. H.*	*West Hopkinton*
Edward Michael Mecheski	*Agr. Ch.*	*Northfield, Mass.*
Arthur Congdon Morse	*D. H.*	*Newburyport, Mass.*
Jonathan Abram Osgood	*Agr. Tr.*	*Pittsfield*
Thomas Paul Sheehan	*For.*	*Portsmouth*
Ernest Edward Thompson	*For.*	*Manchester*
Joseph James Whyte	*For.*	*Lancaster*

College of Liberal Arts (118)

Benjamin Abramson	*Econ.*	*Berlin*
Samuel Taylor Adams, Jr.	*Gen. Bus.*	*Exeter*
Adler Robert Ahlgren	*Soc.*	*Manchester*
Richard Kent Allan	*Gen. Bus.*	*West Lebanon*
Mary Natalie Ames	*H. E.*	*Somersworth*
Mary Goding Annis	*Educ.*	*Londonderry*
Robert Herman Augustinus	*Ent.*	*Manchester*
Barbara Baker	*H. E.*	*Melrose, Mass.*
Edward Schoffstall Billman	*Gen. Bus.*	*Wollaston, Mass.*
Emery Caswell Blanchard	*Educ.*	*Meredith*
George Walton Blanchard	*Gen. Bus.*	*Portland, Maine*
*Minnie Perin Bottorff	*H. E.*	*Durham*
**Isobel Elsie Boutelle	*Educ.*	*Milford*
Fay Sanford Bowen	*Econ.*	*Meredith*
Audrey Elizabeth Bowman	*H. E.*	*Salmon Falls*
Dorothy Louise Brennan	*H. E.*	*Newport*
Estelle Mary Bretschneider	*Econ.*	*Exeter*
James Alfred Briggs	*Educ.*	*Manchester*
Joseph Edward Bronstein	*Econ.*	*Manchester*
Earl Thomas Brooks	*Zoöl.*	*Manchester*
Elliot Winsor Burbank	*Math.*	*Alton*
Helen Sarah Butson	*Gen. Bus.*	*Woodsville*
Robert Henry Callahan	*Econ.*	*Gloucester, Mass.*
Marion Louise Campbell	*Educ.*	*South Portland, Maine*
Alden Lee Carlton	*Gen. Bus.*	*Goffstown*
John Edward Carrigan	*Pre-Med.*	*Somersworth*
Raymond Pierce Chaloner	*Gen. Bus.*	*Nashua*
John Richard Clarey	*Educ.*	*Manchester*
Francis Leslie Colburn	*Gen. Bus.*	*Contoocook*
Bernard Francis Crowley	*Gen. Bus.*	*Concord*

Name	Course	P. O. Address
Elsie Enid Davie	*Gen. Bus.*	*Concord*
Richard Morgan Dodge	*Econ.*	*Manchester*
Thelma Constance Doloff	*Educ.*	*Plymouth*
Francis Rule Donovan	*Gen. Bus.*	*Keene*
Ethel Maria Duffy	*Phys. Educ.*	*Dover*
*William Robert Eadie	*Zoöl.*	*Manchester*
Frank Daniel Elkavich	*Pre-Med.*	*Nashua*
Erwin Sylvester Farrington	*Educ.*	*Simsbury, Conn.*
Saul Feldman	*Econ.*	*Manchester*
Thelma Pearl Ferryall	*Chem.*	*Nashua*
Joseph Raymond Fisher	*Gen. Bus.*	*Rochester*
Nathan Fleischman	*Gen. Bus.*	*Manchester*
Elizabeth Josephine Flint	*Math.*	*Plymouth*
Vera Mae Ford	*H. E.*	*Plymouth*
Charles Faulkner Freeman	*Gen. Bus.*	*Concord*
Raymond Prentiss Galloway	*Pre-Med.*	*Alstead*
Frederick Arthur Gates	*Gen. Bus.*	*Waltham, Mass.*
Ralph Winthrop Goodrich	*Zoöl.*	*Rochester*
Herbert Gordon	*Gen. Bus.*	*Concord*
Howard Eugene Hanley	*Econ.*	*Providence, R. I.*
John Louis Hartigan	*Pre-Med.*	*Rochester*
Harold Melvin Hawkes	*Educ.*	*Portland, Maine*
Nolan George Hikel	*Econ.*	*Plymouth*
*Dorothy Alfreda Jenkins	*Educ.*	*New Durham*
Sylvia Nathalie Johnson	*Hist.*	*Bridgewater, Conn.*
Francis Bernard Kibby	*Educ.*	*Cornish Flats*
Janice Catherine Kimball	*Math.*	*Chester, Vt.*
Frances Elohe Lane	*Educ.*	*Errol*
Fred Clayton Langlois	*Econ.*	*Lebanon*
Lionel Donald Lavoie	*Pre-Med.*	*Manchester*
Robert George Little	*Gen. Bus.*	*Concord*
Alice Ruth McIntyre	*Gen. Bus.*	*Whitefield*
Mary Elizabeth McNutt	*Zoöl.*	*Durham*
George Adolf Magnuson	*Gen. Bus.*	*Concord*
George Thomas Mahar	*Educ.*	*Wilton*
Harry LeRoy Mailman	*Econ.*	*Keene*
*Harry Markowitz	*Gen. Bus.*	*Wallingford, Conn.*
Clarence Walter Metcalf	*Econ.*	*Alstead*
Walter Russell Mitchell	*Educ.*	*Plymouth*

Name	Course	P. O. Address
Jean Wilfred Moreau	*Econ.*	*Manchester*
Robert Herman Morrison	*Gen. Bus.*	*Laconia*
Sarah Elizabeth Morton	*Educ.*	*Concord*
*Elsie Janet Mudgett	*H. E.*	*Pittsford, Vt.*
John Francis Murphy	*Gen. Bus.*	*Manchester*
Jean Shiverick Nevin	*H. E.*	*Edgartown, Mass.*
Carlton Fletcher Noyes	*Gen. Bus.*	*Sunapee*
Velma Eliza Nute	*Gen. Bus.*	*Rochester*
Walter Herman Palmer	*Econ.*	*Salem*
Ruth Angell Paul	*Zoöl.*	*Wendell*
Ernest John Pelletier	*Educ.*	*Hudson*
Emily Weld Perkins	*H. E.*	*Meredith*
Conrad Francis Peterson, Jr.	*Gen. Bus.*	*Amesbury, Mass.*
Stanley Samuel Peterson	*Gen. Bus.*	*Manchester*
*Dorothy Emerson Pratt	*Math.*	*Antrim*
Lawrence Ancel Prentice	*Zoöl.*	*Winchester*
Harold Spencer Ramsay	*Geol.*	*Concord*
Ethel Minnie Reed	*Math.*	*Claremont*
*Robert Ladd Richards	*Pre-Med.*	*Durham*
Madeline Smith Richardson	*Soc.*	*Manchester*
Elsa Helena Ryan	*Educ.*	*Exeter*
Charlotte Louise Saunders	*H. E.*	*Durham*
Joseph Schwartz	*Econ.*	*Portsmouth*
Paul Wayland Scruggs	*Gen. Bus.*	*Woodsville*
Fiorenzo de Angelis Serafini	*Econ.*	*Hanover*
Henry Sherwood	*Pre-Med.*	*Dover*
William Royal Silverman	*Pre-Med.*	*Manchester*
Dorothy Eleanor Smith	*Educ.*	*Londonderry*
Elizabeth Wingate Smith	*Zoöl.*	*Dover*
Malcolm Walker Smith	*Educ.*	*Mechanic Falls, Maine*
Karl Leavitt Smith	*Zoöl.*	*Laconia*
Marjorie Helen Smith	*Phys. Educ.*	*Newfields*
Stewart Lincoln Stokes	*Gen. Bus.*	*Melrose, Mass.*
Louis Julius Streeter	*Educ.*	*Wilton*
James Arnold Sullivan	*Gen. Bus.*	*Somersworth*
Ruth Frances Sullivan	*H. E.*	*Somersworth*
Isabel Ross Thomas	*Educ.*	*Charlestown*
Eunice Gertrude True	*H. E.*	*West Hampstead*
Doris Grace Varney	*Educ.*	*Center Strafford*

Name	Course	P. O. Address
*William John Volkman	*Math.*	*Manchester*
Theofiel Morie Wageman	*Educ.*	*Manchester*
David Leslie Wark	*Econ.*	*Winchester*
Charles Oscar Wettergreen	*Educ.*	*Malden, Mass.*
Nathan White	*Chem.*	*Roxbury, Mass.*
Watson Raymond Whitehouse	*Gen. Bus.*	*Holyoke, Mass.*
Dean Plummer Williamson	*Gen. Bus.*	*Concord*
Rachel Elizabeth Winslow	*H. E.*	*Somersworth*
Margaret Elizabeth Young	*Educ.*	*Keene*

College of Technology (59)

*Gordon Roundy Ayer	*C. E.*	*Keene*
Laurence Alvin Barker	*E. E.*	*Nashua*
*Alf Hugo Bendix Bendixen	*M. E.*	*Peterborough*
Charles Knowlton Brown	*M. E.*	*South Danbury*
Clarence Jorgen Brungot	*M. E.*	*Berlin*
Malcolm Jerome Chase	*C. E.*	*Seabrook*
Clifford Rowe Clark	*Arch.*	*Portsmouth*
*Horace Leslie Curtis	*M. E.*	*Lakeport*
Otis French Cushman	*E. E.*	*Stratham*
Edmund Howard Dickerman	*I. E.*	*Brookline*
Ralph Holmes Duley	*M. E.*	*North Danville*
Edward Eugene Dustin	*C. E.*	*Penacook*
Russell Jenkins Ellsworth	*Arch.*	*Penacook*
George Lamb Freese	*E. E.*	*Bristol*
Frederic Dresser Fuller	*Chem.*	*North Stratford*
Raymond Adrien Geoffrion	*M. E.*	*Newmarket*
John Francis Grady	*C. E.*	*Chichester*
Arthur Samuel Graham	*Chem.*	*Manchester*
Edward Handschumaker	*Chem.*	*Manchester*
Alfred Munroe Harriman	*C. E.*	*Warner*
Wesley Knowlton Heath	*M. E.*	*Franklin*
*Robert Wilkins Hooper	*C. E.*	*Sanbornville*
*Everett Hilton Lang	*Chem.*	*Durham*
Hubert Arsene Lavallee	*I. E.*	*Berlin*
John Bailey MacLellan	*Arch.*	*Woodsville*
Donald William Mack	*E. E.*	*Claremont*
Alphonse Joseph Marchand	*Arch.*	*Lebanon*
Robert Edgerly Mauricette	*I. E.*	*Dover*

Name	Course	P. O. Address
Alexander Emile Maynard	*C. E.*	*Nashua*
*Mark Mason Moore	*M. E.*	*Milford*
John Allen Mulford	*Arch.*	*Westmoreland Depot*
Duaine Tyler Patenaude	*M. E.*	*Henniker*
Bernard Oliver Peterson	*I. E.*	*Rochester*
Alfred Parson Philbrick	*E. E.*	*Portsmouth*
Charles Willard Pike	*Chem.*	*Colebrook*
Paul Angel Polisson	*C. E.*	*Gloucester, Mass.*
Orrien Kenneth Reid	*E. E.*	*Gorham*
Elwyn Arthur Riley	*C. E.*	*Concord*
*Paul James Robbins	*Chem.*	*Berlin*
Preston Elwell Rolfe	*E. E.*	*Portsmouth*
John Edward St. Clair, Jr.	*I. E.*	*Laconia*
George Washington Scott, Jr.	*Arch.*	*Rochester*
Richard Ring Scott	*C. E.*	*Raymond*
Ernest Wilbur Smith	*C. E.*	*Manchester*
Eugene Smith	*M. E.*	*Newburyport, Mass.*
Fred William Snell	*Chem.*	*Lisbon*
Vernon Trickey Swain	*E. E.*	*Barrington*
Earl Armstrong Tallman	*C. E.*	*Manchester*
Ernest Gerald Thorin	*I. E.*	*Dover*
George Richard Walden	*E. E.*	*Portsmouth*
Maurice Arthur Wales	*Chem.*	*Portsmouth*
*John Erwin Walstrom	*E. E.*	*Keene*
Frank William Whitcomb	*E. E.*	*Bellows Falls, Vt.*
Roy Clifford Wiggins	*Chem.*	*Montpelier, Vt.*
Ralph Harry Williams	*E. E.*	*Lebanon*
Cedric Ned Witham	*M. E.*	*Hill*
Arthur Henry Witkus	*I. E.*	*Newport*
Edward George Wood	*I. E.*	*Rochester*
Harry Laurence Wood	*E. E.*	*Providence, R. I.*

BACHELOR OF ARTS

College of Liberal Arts (88)

Bernard Jacob Alpers	*History*	*Salem, Mass.*
Charlotte Ann Atwood	*French*	*Lisbon*
William John Atwood	*French*	*Wolfeboro*
John Robert Ayers	*Pol. Sci.*	*Everett, Mass.*
Florence Mildred Baker	*French*	*Concord*

Name	Course	P. O. Address
Charlotte Mabel Ball	*English*	*Colebrook*
*Barbara Copeland Barnaby	*English*	*Portsmouth*
*Alice Sarah Bartlett	*History*	*Lebanon*
Donald Fiske Berry	*Pre-Law*	*New Boston*
Rose Black	*French*	*Portsmouth*
Malcolm Dodge Brannen	*Pol. Sci.*	*Durham*
Emma Diana Brisson	*French*	*Newmarket*
Carlton Elwin Buttrick	*History*	*East Hampstead*
Lloyd Buttrick	*History*	*Hillsborough*
John Bernard Campbell	*Pol. Sci.*	*Manchester*
John Joseph Conroy	*Pol. Sci.*	*Newport, R. I.*
Doris May Carpenter	*English*	*Newmarket*
Helen Genevieve Carpenter	*French*	*Somersworth*
Ruth Elizabeth Caverly	*English*	*Bow Lake*
*Warren David Chandler	*Pre-Law*	*Dover*
Louise Lowell Chase	*English*	*Manchester*
William Stearns Dallinger	*History*	*Cambridge, Mass.*
John Alexander Dane	*Pol. Sci.*	*Concord*
*Ruth Ellen Dodge	*English*	*New Boston*
Regal Harry Dorsey	*History*	*Wallingford, Conn.*
Cecelia Eleanor Downing	*Latin*	*Nashua*
Richard James Eustis	*Pol. Sci.*	*Marblehead, Mass.*
Ivanetta Fecteau	*History*	*Exeter*
Austen Wells Fenton	*History*	*Wrentham, Mass.*
David William Fessenden	*Pre-Law*	*Brookline*
Eileen Ross Gadd	*English*	*Plymouth*
John Ripley Gleason	*Pol. Sci.*	*Dublin*
Ivah Augustus Hackler	*History*	*Marlboro*
Charles Russell Hanna	*Pre-Law*	*West Swanzey*
Teresa Frances Hannigan	*French*	*Exeter*
James Campbell Harris	*Pol. Sci.*	*Queens Village, N. Y.*
Carolyn Trafton Hatch	*Latin*	*Kittery, Maine*
James Henry Hayes	*Pol. Sci.*	*Wollaston, Mass.*
Lawrence William Henderson	*Pol. Sci.*	*Merrimack*
Helen Arline Hooper	*French*	*Greenland*
*Harriet Stone Hubbard	*English*	*Peterborough*
Leigh Francis Jaques	*Pol. Sci.*	*Worcester, Mass.*
Doris Arvella Jenney	*French*	*South Portland, Maine*
David Blanchard Jennison	*Pol. Sci.*	*Milford*

Name	Course	P. O. Address
*Eleanor Noyes Johnson	*English*	*Newburyport, Mass.*
*Dorothy Knight Kalijarvi	*English*	*Durham*
Velna Marriett Kelso	*Latin*	*Hillsborough*
Henry Chester Lane	*Pol. Sci.*	*Keene*
Carlo Edmund Lanzilli	*Music*	*Portsmouth*
Beatrice Mabelle Luce	*Latin*	*Exeter*
Jean MacDonald	*English*	*Brookfield, Mass.*
Thomas Paul McKoan	*Pol. Sci.*	*Westville*
Frances Olive Mason	*French*	*Winchester*
Annie Vickery Meader	*History*	*Dover*
Nancy West Meehan	*English*	*Worcester, Mass.*
Harriett Apphia Meloon	*Psychology*	*Ossipee*
Lionel Lucian John Meunier	*Pre-Law*	*Nashua*
Agnes Margaret Molloy	*Latin*	*Nashua*
Alberta Ross Morrill	*History*	*East Kingston*
Doris Elizabeth Mowatt	*English*	*Exeter*
Dorothea Claire Mowatt	*French*	*Exeter*
*Dorothy Hoxie Nulsen	*Psychology*	*Durham*
James Francis O'Hare	*History*	*Nashua*
Edith Rosetta Paul	*English*	*Wendell*
Howard Donald Penley	*Pol. Sci.*	*Portland, Maine*
Virginia Powers	*French*	*Concord*
Philip Thompson Prescott	*Philosophy*	*Stratham*
George Sherman Pridham, Jr.	*French*	*Portsmouth*
*Anna Josephine Redden	*Latin*	*Dover*
Louise Elizabeth Remington	*French*	*Manchester*
Wayne Sherwood Ricker	*History*	*Rochester*
John Francis Roche	*Pol. Sci.*	*Manchester*
Frances Mary Royce	*Music*	*Somersworth*
Myrtle Louise Sampson	*History*	*Hampton Beach*
Mary Ella Sayward	*History*	*Lancaster*
James Edward Slack	*Pol. Sci.*	*Meriden*
Raymond Sutton Slack	*History*	*Meriden*
Russell Clark Smith	*Pol. Sci.*	*Whitefield*
Owen Eldred Steele	*Pre-Law*	*Gloucester, Mass.*
Julian Hall Teague	*Pol. Sci.*	*Portsmouth*
Gordon Oliver Thayer	*Pre-Law*	*Dover*
Patricia Alice Thayer	*History*	*Epping*
*Gordon Francis Tolman	*Psychology*	*Nelson*

Name	Course	P. O. Address
Howard Ellis Wheelock	*History*	*Keene*
Emily Thornedyke White	*History*	*Rye Beach*
Waldron Carter White	*Pol. Sci.*	*Peterboro*
Charles Henry Wilson	*Pol. Sci.*	*Portland, Maine*
Norman Arthur Wright	*History*	*Keene*

** Indicates "With High Honor" (average of 90 or above for college course).
* Indicates "With Honor" (average of 85 to 90 for college course).

TWO-YEAR CERTIFICATES

College of Agriculture (7)

Karl Franklin Connor	*Henniker*
Vernon Stanley Harris	*Peterboro*
James Joseph McDonald	*Sanbornville*
David Hial Nelson	*Mill Village*
Maurice Bernard Sullivan	*Keene*
Lee Walter Swett	*Andover*
Roger Everett White	*Winchester*

PRIZES AWARDED, 1932

BAILEY PRIZE
Paul James Robbins, Berlin

BARTLETT PRIZE
Gregoire Jean Leclerc, Manchester

KATHERINE DEMERITT MEMORIAL PRIZE
Marion Anita Hough, Riverside, R. I.

DIETTRICH MEMORIAL CUP
Hazel Towle Hounsell, Durham

ERSKINE MASON MEMORIAL PRIZE
Robert Wilkins Hooper, Sanbornville

HOOD ALL-ROUND ACHIEVEMENT PRIZE
Harry Laurence Wood, Providence, R. I.

HOOD DAIRY CATTLE JUDGING PRIZES
First—Paul Wesley Henderson, Merrimack
Second—Raymon Charles Willard, Temple
Third—Arthur Congdon Morse, Newburyport, Mass.

AMERICAN LEGION AWARD
Mark Mason Moore, Milford

MASK AND DAGGER ACHIEVEMENT PRIZES
Bernard Jacob Alpers, Salem
Carlo Edmund Lanzilli, Portsmouth

DELTA CHI TROPHY
Arthur Clarence Lewis, Manchester

PHI MU MEDAL
Emily Thornedyke White, Rye Beach

PHI SIGMA PRIZE
William Robert Eadie, Manchester

CLASS OF 1899 PRIZE
Harry Laurence Wood, Providence, R. I.

UNIVERSITY OF NEW HAMPSHIRE

EDWARD T. FAIRCHILD PRIZES

Beatrice Mabelle Luce, Exeter
Annie Vickery Meader, Dover

PSI LAMBDA CUP

Mary Natalie Ames, Somersworth

ALPHA CHI OMEGA PRIZE

Theodora Carolyn Libby, Sanbornville

ALPHA XI DELTA CUP

Marjorie Helen Smith, Newfields

EDWARD M. STONE CUP

Phi Alpha Fraternity

ASSOCIATION OF WOMEN STUDENTS' AWARD

Gertrude Alice Chamberlin, Manchester

ALPHA ZETA SCHOLARSHIP CUP

Arnold Desmore Rhodes, Lancaster

CHI OMEGA PRIZE

Helen Sarah Butson, Woodsville

LOCKE PRIZE

Christine Agnes Hogan, Newfields

ALPHA CHI SIGMA CHEMISTRY AWARD

Kendrick Stephen French, Center Barnstead

LAWRENCE HILL OPDYCKE PRIZES

Everett Hilton Lang, Durham
Charles Willard Pike, Colebrook

INTERCOLLEGIATE WRITING CONTEST

(Institutions competing: Universities of Maine, New Hampshire and Vermont)

Essays:

First Prize—Margaret Irving Rossell, Portsmouth

Third Prize—Alice Elizabeth Walker, Newmarket

PRIZES AWARDED

Short Stories:

First Prize—George Bancroft Abbe, Dublin

Poetry:

Second Prize—Shirley Frances Barker, Farmington

Third Prize—George Bancroft Abbe, Dublin

DAVIS CATTLE JUDGING PRIZES FOR TWO-YEAR STUDENTS

First Prize—Karl Franklin Connor, Henniker

Second Prize—David Hial Nelson, Mill Village

Third Prize—James Joseph McDonald, Sanbornville

* STUDENTS, 1932–1933

ABBREVIATIONS DESIGNATING COURSES

Agr. Ch.—Agricultural Chemistry
Arch.—Architecture
A. G.—Arts General
Agr.—General Agriculture
Agr. Tr.—Agriculture, Teacher Training
A. H.—Animal Husbandry
C. E.—Civil Engineering
Chem.—Technology Curriculum in Chemistry
D. H.—Dairy Husbandry
Educ.—Professional Education
E. E.—Electrical Engineering
Engr.—Engineering
For.—Forestry
Gen. Bus.—General Business
H. E. D.—Home Economics, Dietitian
H. E. I.—Home Economics, Institutional
H. E. Tr.—Home Economics, Teacher Training
Hort.—Horticulture
I. E.—Industrial Engineering
I. Tr.—Industrial, Teacher Training
M. E.—Mechanical Engineering
P. H.—Poultry Husbandry
Phys. Ed.—Professional Physical Education for Women
Pre-Law—Pre-Law
Pre-Med.—Pre-Medical

GRADUATE STUDENTS

(Men, 35; Women, 17; Total, 52)

NAME	COURSE	P. O. ADDRESS
Anderson, Ernest William, B.S. Virginia, 1931	*Major Chemistry*	*Portsmouth, Va.*
Anderson, Mildred Pope, B.A. Richmond, 1929	*Major Education*	*Norfolk, Va.*

*Does not include students registered in the Spring Term.

GRADUATE STUDENTS

Name	Course	P. O. Address
Baker, Walter Connor, B.S. Mass. State, 1932	*Major Entomology* *Minor Agr. Chemistry*	*Franklin, Mass.*
Bowker, Marshall Edward, B.S. New Hampshire, 1931	*Major Mathematics*	*Kittery, Maine*
Boyd, Robert Lucius, B.S. Mass. Agr. College, 1918	*Major Education*	*Littleton*
Brannen, Mildred Evelyn, B.A. New Hampshire, 1929	*Major History*	*Durham*
Brisson, Emma Diana, B.A. New Hampshire, 1932	*Major French*	*Newmarket*
Brooks, Charles Hussey, B.A. New Hampshire, 1931	*Major Education*	*Dover*
Brown, John Alexander, B.A. Minnesota, 1930	*Major Zoölogy*	*St. Paul, Minn.*
Bryant, Louis Ralph, M.S. Illinois, 1931	*Major Horticulture*	*Princeton, Ill.*
Burkhart, Leland, B.S. Ohio State, 1931	*Major Agr. and Bio. Chemistry*	*Perrysburg, Ohio*
Chase, Louise Lowell, B.A. New Hampshire, 1932	*Major English*	*Manchester*
Cheetham, Tom, B.S. New Hampshire, 1931	*Major Education*	*Nashua*
Clark, Warren Clifford, A.B. Dartmouth, 1928	*Major Education*	*Portsmouth*
Creath, Cecil Vernon, B.S. Illinois, 1930	*Major Zoölogy* *Minor Botany*	*Sullivan, Ill.*
Currie, Wilsie Austin, B.S. New Hampshire, 1931	*Major English*	*Providence, R. I.*
Cushing, Merchant LeRoy, B.S. New Hampshire, 1931	*Major Chemistry*	*Plaistow*
Cushman, Otis French, B.S. New Hampshire, 1932	*Major Mathematics*	*Stratham*
Davis, Henry Albert, B.S. New Hampshire, 1932	*Major Agr. Chemistry*	*East Sullivan*
Dodge, Ruth Ellen, B.A. New Hampshire, 1932	*Major English*	*New Boston*
Durant, Edward Tucker, A.B. Bowdoin, 1928	*Major French* *Minor Education*	*Pepperell, Mass.*

Name	Course	P. O. Address
Eadie, William Robert, B.S. New Hampshire, 1932	*Major Zoölogy*	*Manchester*
Fielding, Thomas, A.B. Brown, 1932	*Major English* *Minor Education*	*Touisset,* *Mass.*
Gibbons, Ronald Scott, A.B. Wesleyan, 1920	*Major Education*	*Amesbury,* *Mass.*
Grover, Muriel Rutledge, A.B. Tufts, 1932	*Major Education* *Minor Latin*	*Dover*
Jenkins, Earle Fletcher, B.S. New Hampshire, 1929	*Major Education*	*Epping*
Lang, Everett Hilton, B.S. New Hampshire, 1932	*Major Chemistry*	*Durham*
Mecheski, Edward Michael, B.S. New Hampshire, 1932	*Major Agr. Chemistry*	*Northfield,* *Mass.*
Meserve, Cecille Agnes, B.S. Boston University, 1931	*Major Education* *Minor Sociology*	*Newbury,* *Vt.*
Monroe, Clyde Wentworth, B.S. R. I. State College, 1931	*Major Zoölogy* *Minor Botany*	*Taunton,* *Mass.*
Moran, Phyllis Marguerite, B.A. New Hampshire, 1930	*Major Education*	*Somersworth*
Nudd, Philip, B.S. New Hampshire, 1930	*Major Mathematics* *Minor Education*	*Hampton*
Nulsen, Dorothy, B.A. New Hampshire, 1932	*Major Zoölogy* *Minor Psychology*	*Durham*
Osgood, Jonathan Abram, B.S. New Hampshire, 1932	*Major Education* *Minor Mathematics*	*Pittsfield*
Paradis, Doris Viola, B.A. New Hampshire, 1930	*Major French*	*Somersworth*
Patridge, Eva Small, B.A. New Hampshire, 1925	*Major Education*	*Newfields*
Perkins, Donald Merrill, B.S. New Hampshire, 1931	*Major Mathematics*	*Sunapee*
Pitz, Donald, B.S. New Hampshire, 1931	*Major Chemistry*	*Durham*
Rawlings, Cecil Otis, B.S. Illinois, 1925	*Major Horticulture*	*Strasburg,* *Ill.*
Redden, Anna Josephine, B.A. New Hampshire, 1932	*Major French* *Minor English*	*Dover*

SENIORS

Name	Course	P. O. Address
Riley, Matthew Howard, B.S. New Hampshire, 1931	*Major Mathematics*	*Somersworth*
Roe, Henrietta R., B.S. State Teachers' College Trenton, N. J., 1930	*Major Education* *Minor History*	*Dover*
Sewell, Dorothy Augusta, B.A. New Hampshire, 1930	*Major French*	*Dover*
Smith, Owen J., B.S. Iowa Wesleyan College, 1932	*Major Entomology* *Minor Chemistry and Zoölogy*	*Albia, Iowa*
Swain, Vernon Trickey, B.S. New Hampshire, 1932	*Major Education*	*Madbury*
Taylor, Alfred Henry, B.S. New Hampshire, 1930	*Major Chemistry*	*Pearl River, N. Y.*
Tebbetts, Lucy Mable, B.S. Boston University, 1928	*Major French* *Minor Latin*	*Berwick, Maine*
Temple, George Franklin, B.S. M. I. T., 1930	*Major Chemistry*	*Somersworth*
Thayer, Gordon Oliver, B.A. New Hampshire, 1932	*Major Education* *Minor History*	*Dover*
Thomas, Naomi Williams, B.A. Westhampton College and University of Richmond, 1929	*Major History* *Minor Education*	*Portsmouth, Va.*
Uicker, John Joseph, B.S. New Hampshire, 1931		*Derry*
Washburn, Lloyd Eugene, B.S. Penn. State College, 1931	*Major Agr. and Bio. Chem.* *Minor Zoölogy*	*Roaring Branch, Pa.*
Young, Edna Susan, B.S. New Hampshire, 1931	*Major Education*	*Wolfeboro*

SENIORS

(Men, 220; Women, 120; Total, 340)

Name	Course	P. O. Address
Abbe, George Bancroft	*A. G.*	*North Guilford, Conn.*
Adams, Raymond Houghton	*A. G.*	*Concord*
Ahlgren, Clarence Livingston	*M. E.*	*Manchester*
Alexander, Alta Catherine	*H. E.*	*Durham*
Andberg, William Gust	*Agr.*	*West Concord*

Name	Course	P. O. Address
Anderson, Rita Ellen	*Educ.*	*Portsmouth*
Andrews, Virginia Natalie	*A. G.*	*Rochester*
Atkins, Arden Gerald	*A. G.*	*Haverhill, Mass.*
Auerbach, Richard Dexter	*A. G.*	*Durham*
Avery, Margaret Elizabeth	*A. G.*	*Wolfeboro*
Babcock, Janet Marian	*A. G.*	*Bristol, Conn.*
Bacon, Everett Holton	*Gen. Bus.*	*West Lebanon*
Baker, Barbara	*H. E. I.*	*Melrose, Mass.*
Baker, Robert Fletcher	*Agr.*	*Manchester*
Bakus, Samuel Themistoklis	*A. G.*	*Manchester*
Baldacci, Elda Angela	*A. G.*	*Claremont*
Baldwin, Willard Justus	*C. E.*	*Colebrook*
Bartlett, Florence Anna	*H. E.*	*Claremont*
Bartlett, Waldorf Ray, Jr.	*Hort.*	*Newport*
Bates, Richard Townsend	*A. G.*	*East Rochester*
Beede, Arnold Henry	*M. E.*	*Hampstead*
Bertelsen, Albert Norton	*Arch.*	*Durham*
Bingham, Harold Clinton	*Educ.*	*Dover*
Biro, Helen Blanche	*A. G.*	*Lowell, Mass.*
Blaine, Kenneth Arthur	*Chem.*	*Manchester*
Blaisdell, Charles Albert	*Chem.*	*Somersworth*
Blaisdell, Fred William	*C. E.*	*Goffstown*
Blaisdell, Leslie Newton	*Hort.*	*Goffstown*
Booth, Bradley Hyatt	*E. E.*	*Laconia*
Boston, Elwyn Richard	*M. E.*	*Dover*
Boulay, Ernest Alfred	*A. G.*	*Concord*
Bremner, Robert Marshal	*Pre-Med.*	*Manchester*
Brennan, Dorothy Louise	*H. E.*	*Newport*
Bresnahan, Clare Alberta	*A. G.*	*Manchester*
Brewster, Donald Wesley	*M. E.*	*West Lebanon*
Brown, Charles Stanley	*For.*	*Wentworth*
Brown, Edna Frances	*H. E.*	*East Westmoreland*
Bryant, Harlan Moore	*C. E.*	*Milton*
Bujnievicz, Jennie	*A. G.*	*Laconia*
Burleigh, Austin Holmes	*M. E.*	*Tavares, Fla.*
Burlingame, Roland Smith	*C. E.*	*Lebanon*
Burns, Kate Angelia	*H. E.*	*Milford*
Burns, Warren Whitcomb	*A. G.*	*Manchester*
Callahan, Robert Henry	*A. G.*	*Gloucester, Mass.*

Name	Course	P. O. Address
Calnan, Catherine Dorothy	*A. G.*	*Manchester*
Campbell, Elizabeth Adeline	*A. G.*	*Medford, Mass.*
Cantlin, Clark Alson	*A. G.*	*Lebanon*
Carroll, Newton LeRoy	*A. G.*	*Dover*
Carswell, Philip John	*M. E.*	*Chesham*
Casey, Mary Catherine	*H. E.*	*Somersworth*
Chaloner, Stewart Livingston	*Gen. Bus.*	*Nashua*
Chamberlain, Edwin Russell	*Agr.*	*Alton*
Chamberlin, Gertrude Alice	*A. G.*	*Manchester*
Chapman, Carleton Abramson	*A. G.*	*Groveton*
Chestnolvich, John Ritchie	*A. G.*	*Nashua*
Chestnolvich, Peter Walter	*For.*	*Nashua*
Christie, Aldis Joel	*For.*	*Groveton*
Clark, Elroy Graham	*Pre-Law*	*Portsmouth*
Clark, Fred Towle	*Educ.*	*Portsmouth*
Clark, Harvey Ambrose	*For.*	*Hollis Center, Maine*
Clark, Maurice Varney	*A. G.*	*Manchester*
Clark, Roy William	*A. G.*	*Manchester*
Clarkson, Richard Blodgett	*A. G.*	*Newburyport, Mass.*
Clogston, Charlotte Montague	*Phys. Ed.*	*Ely, Vt.*
Connor, Mary Virginia	*A. G.*	*Manchester*
Cooper, Paul Herman	*Gen. Bus.*	*Lincoln*
Corson, Cynthia Towle	*A. G.*	*Dover*
Cram, Joseph Leavitt	*C. E.*	*Hampton Falls*
Cram, Margaret Lakin	*Educ.*	*Hampton Falls*
Creteau, Wilfrid William	*A. G.*	*Rochester*
Croke, William Harry	*Agr.*	*Durham*
Cronshaw, Thomas Hanscomb	*Gen. Bus.*	*Newfields*
Crooks, Helen Frances	*H. E.*	*Winthrop, Mass.*
Crosby, George Edward	*Gen. Bus.*	*Hanover*
Crowell, Gilman Kimball	*Chem.*	*Concord*
Crozier, Martha Graham	*Educ.*	*Lebanon*
Cull, Stanton Edward	*A. G.*	*Providence, R. I.*
Currier, James Luke	*E. E.*	*Tilton*
Cuzner, Helen Elizabeth	*A. G.*	*North Easton, Mass.*
Daroska, Mary Magdalene	*A. G.*	*Pittsfield*
Darrah, Cynthia Florence	*A. G.*	*Mont Vernon*
Dawson, Charles Reginald	*Chem.*	*Claremont*
Dearborn, Paul Edward	*A. G.*	*Tilton*

Name	Course	P. O. Address
Decker, Gordon Ulysses	*M. E.*	*Claremont*
Dekker, William Cunningham	*A. G.*	*Manchester*
Demos, Arthur Nicholas	*A. G.*	*Concord*
deMoulpied, David Allen	*M. E.*	*Manchester*
Devereux, Mary Eileen	*H. E.*	*Somersworth*
Dickey, Edna Frances	*A. G.*	*Salem*
Dickson, Howard Thornwell	*E. E.*	*Manchester*
Dinnerman, Maurice	*Pre-Med.*	*Portsmouth*
Doe, Margaret	*A. G.*	*Dover*
Dogan, Adam Edward	*E. E.*	*Nashua*
Dolloff, Charles Clarence	*Educ.*	*Malden, Mass.*
Dozois, Louise Irene	*A. G.*	*Manchester*
Dunlap, Catharine Alice	*A. G.*	*Lancaster*
Dunnan, Donald Wood	*Educ.*	*Everett, Mass.*
Dwyer, James Howard	*A. G.*	*Somersworth*
Eaton, Marjorie Louise	*A. G.*	*Melrose, Mass.*
Edgerly, Herman Dore	*Arch.*	*Chocorua*
Edgerly, John Hilton	*M. E.*	*Meredith*
Elmer, Harrel Denison	*Gen. Bus.*	*Claremont*
Esersky, Amy Deborah	*A. G.*	*Claremont*
Evans, Marion	*A. G.*	*Framingham, Mass.*
Fall, Marguerite	*A. G.*	*South Tamworth*
Farinoli, Bruna Alma	*Educ.*	*Fitzwilliam Depot*
Feindel, Howard Walker	*E. E.*	*Berlin*
Ferrini, Lincoln Paul	*A. G.*	*Portsmouth*
Ferry, Clarence Everett	*C. E.*	*Manchester*
Fields, Margaret Edith	*A. G.*	*Suffield, Conn.*
Files, Carolyn May	*A. G.*	*Meredith*
Finn, Marie Veronica	*A. G.*	*Newfields*
Fish, Karl Edwin	*Agr.*	*Peterboro*
Fisher, Albert Charles	*Gen. Bus.*	*Rochester*
Fitch, Ruth Cleo	*H. E.*	*Lancaster*
Fletcher, Beulah Caroline	*H. E.*	*St. Johnsbury, Vt.*
Fletcher, John Christopher	*Arch.*	*Plymouth*
Floyd, Wesley Rufus	*C. E.*	*South Hampton*
Foster, Virginia Frances	*H. E.*	*Manchester*
Foster, Walter John	*A. G.*	*Suncook*
Fox, John Trow	*C. E.*	*Mont Vernon*
French, Thomas Penn	*A. G.*	*Durham*

Name	Course	P. O. Address
Gage, Alyce Louise	*Educ.*	*Pelham*
Garland, Harold Roy	*Agr.*	*Portsmouth*
Gibbons, Henry Raymond	*A. G.*	*Lowell, Mass.*
Gilman, John Garland	*A. H.*	*Laconia*
Glennon, Francis John	*A. G.*	*Manchester*
Goldstein, Rose Barbara	*A. G.*	*Portsmouth*
Goodman, Ruth Polimer	*A. G.*	*Portsmouth*
Goodman, Samuel Benjamin	*A. G.*	*Lebanon*
Goodwin, Marian Pauline	*A. G.*	*Goffstown*
Gormley, Eugene Gordon	*Pre-Med.*	*Lancaster*
Greenwood, Norman Keniston	*Gen. Bus.*	*North Andover, Mass.*
Grenier, Gabrielle Marguerite	*Phys. Ed.*	*Manchester*
Griffin, Rodney Almus	*Chem.*	*Franklin*
Griffith, Robert Frederick	*A. G.*	*Nashua*
Grinnell, George Herbert	*A. G.*	*Derry*
Hadley, Robert Peaslee	*A. G.*	*Manchester*
Hall, Phillips Russell	*A. G.*	*Plymouth*
Halstead, Ruth	*A. G.*	*Hampstead*
Hardy, Clyde Solon	*Chem.*	*Enfield*
Hart, Herman Howard	*A. G.*	*Manchester*
Hascall, Olive Frances	*A. G.*	*Riverside, R. I.*
Hatton, Joseph Herbert	*A. G.*	*Manchester*
Haweeli, Edward Herbert	*A. G.*	*Berlin*
Hawkins, Frederick William	*Arch.*	*Troy*
Haynes, Wesley Eaton	*C. E.*	*Nashua*
Hazen, Constance Dana	*A. G.*	*Lebanon*
Hazen, Hollis Milan	*Agr. Tr.*	*Concord*
Henderson, Paul Wesley	*D. H.*	*Merrimac*
Hibbard, Ruth	*A. G.*	*Lebanon*
Hills, Jeanne Champlain	*A. G.*	*Dover*
Hogan, Christine Agnes	*A. G.*	*Newfields*
Holmberg, Gerald William	*I. E.*	*Bedford*
Holt, John Dale	*A. G.*	*Nashua*
Horne, Emerson	*E. E.*	*Newfields*
Hough, Marion Anita	*A. G.*	*Riverside, R. I.*
Hounsell, Hazel Towle	*A. G.*	*Durham*
Hoyt, Frank Edward	*Gen. Bus.*	*Gorham, Maine*
Hunkins, Charlotte Louise	*A. G.*	*Auburn*
Hunt, Roger Whitcomb	*E. E.*	*Swanzey*

Name	Course	P. O. Address
Hurley, George Norton	*A. G.*	*Concord*
Huse, Ernest Leslie, Jr.	*E. E.*	*Meriden*
Ives, Robert Donald	*E. E.*	*Schenectady, N. Y.*
Jackson, Carroll Edward	*Chem.*	*Dover*
Janetos, George Simos	*Pre-Law*	*Dover*
Johnson, Mabel Towle	*H. E.*	*Northwood Narrows*
Jordan, William Dexter	*C. E.*	*Colebrook*
Joy, Roland Elmer	*A. G.*	*Manchester*
Joyal, Henry Joseph	*E. E.*	*Manchester*
Kessler, Dorothy Sylvia	*A. G.*	*Nashua*
Kibbey, Francis Bernard	*Gen. Bus.*	*Cornish Flat*
Kilton, Margery Lucille	*A. G.*	*West Lebanon*
Kimball, Donald Spurr	*Pre-Law*	*Franklin*
King, Florence Lee	*Educ.*	*Manchester*
Kinsley, Anna	*A. G.*	*Somersworth*
Kirkpatrick, John Gaskill	*M. E.*	*Concord*
Kittredge, George Dimmick	*P. H.*	*Mont Vernon*
Klein, Norman Wendell	*A. G.*	*Brookline*
Kruger, Herman Adolph	*Gen. Bus.*	*Exeter*
Labelle, Henry Antoine	*A. G.*	*Manchester*
Lamberton, Alfred James	*A. G.*	*Claremont*
Lane, Eleanor	*A. G.*	*Bartlett*
Lanen, Prucia Morrill	*A. G.*	*Melrose, Mass.*
Lang, Francis Edward	*A. G.*	*Somersworth*
Langlois, Frances Marguerite	*A. G.*	*Manchester*
Lapointe, Roland Edward	*Pre-Med.*	*Manchester*
Laton, Frances Winifred	*A. G.*	*Madbury*
Lavalley, Doris Elizabeth	*A. G.*	*Dover*
Leach, Bessie Mae	*A. G.*	*Groveton*
Learmonth, Arthur Bignold	*Educ.*	*Lawrence, Mass.*
Leclerc, Gregoire Jean	*For.*	*Manchester*
Lemay, Gerard Leon	*Gen. Bus.*	*Manchester*
Libby, Ruth	*H. E.*	*Plymouth, Mass.*
Lisabeth, Lucien A.	*Educ.*	*Manchester*
Locke, Mary Kelley	*H. E.*	*Alton*
Lord, Almon Mudgett	*Agr.*	*Dover*
McBride, Headley Addison	*For.*	*Wolfeboro*
McCooey, John Edward	*Gen. Bus.*	*Dover*
McFadden, Albert Edmund	*A. G.*	*Dover*

Name	Course	P. O. Address
McGowan, Lawrence Raymond	*Educ.*	*Fairhaven, Mass.*
McGrath, Francis Bernard	*Educ.*	*Manchester*
McInnis, Katherine	*A. G.*	*Concord*
McKinney, Bartlett	*Educ.*	*Berlin*
McLean, Maynard Gilbert	*Gen. Bus.*	*Concord*
McNeil, Alice Belle	*Educ.*	*Lebanon*
McSwiney, Francis Burke	*A. G.*	*Concord*
Macdonald, Raeburn	*C. E.*	*Berlin*
Machon, Herbert William	*E. E.*	*Providence, R. I.*
Mackey, Elmer Adolphe	*Pre-Law*	*Fitzwilliam Depot*
Mahar, George Thomas	*Educ.*	*Wilton*
Mahoney, Arthur Joseph	*Educ.*	*Malden, Mass.*
Main, Robert Winston	*A. G.*	*Manchester*
Mann, Guy Webster	*Agr.*	*East Concord*
Marshall, Frances Mary	*H. E.*	*Columbia*
Marshall, Richard Barton	*Gen. Bus.*	*Milford*
Marston, Anita B.	*Educ.*	*Newmarket*
Martin, Ellsworth Paul	*Arch.*	*Keene*
Martin, Marion Marie	*A. G.*	*Derry*
Mellett, Dorothy Frances	*A. G.*	*North Woodstock*
Merrill, Edith Myra	*A. G.*	*Groveton*
Milot, Louis Georges	*A. G.*	*Attleboro, Mass.*
Montgomery, Hugh	*A. G.*	*Portsmouth*
Moore, Helen Louise	*A. G.*	*Malden, Mass.*
Morey, Helen Lydia	*Educ.*	*New London*
Morin, Romeo Paul	*M. E.*	*Manchester*
Mott, Guibert Allen	*C. E.*	*Brandon, Vt.*
Mulvanity, Richard Timothy	*Pre-Med.*	*Nashua*
Murray, Kendall Brown	*Gen. Bus.*	*Malden, Mass.*
Mushlin, Harry Ralph	*Pre-Med.*	*Manchester*
Nash, Anne	*A. G.*	*Framingham, Mass.*
Nowak, Theodore Alexander	*C. E.*	*Exeter*
Nutter, Beatrice Mae	*A. G.*	*Rochester*
O'Neill, Walter Francis	*C. E.*	*Manchester*
Paine, Philbrook	*A. G.*	*Durham*
Palmer, Stephen Billings	*A. G.*	*Stonington, Conn.*
Paquin, Laurence Gilbert	*A. G.*	*Lebanon*
Parks, Elizabeth	*A. G.*	*Nashua*
Parsons, Marjorie Ada	*A. G.*	*Colebrook*

Name	Course	P. O. Address
Peckham, Warren Francis	*Chem.*	*Concord*
Perfect, Robert Gordon	*Educ.*	*Hampton Falls*
Perkins, Frederic Blood	*M. E.*	*Bartlett*
Perkins, Thomas Alexander	*Pre-Law*	*Gorham*
Phillips, Marion Lucy	*H. E.*	*East Candia*
Picard, Leland	*A. G.*	*Derry*
Pickwick, Mary Alma	*H. E.*	*Manchester*
Pike, John Gilbert, Jr.	*M. E.*	*Mill Village*
Pike, Marion Louise	*Educ.*	*Concord*
Pike, Warren Mahlon	*A. G.*	*Durham*
Pilotte, Russell Arthur	*Gen. Bus.*	*Whitefield*
Pingree, Thomas Shirley	*A. G.*	*Manchester*
Pinska, Josephine Mary	*Educ.*	*Manchester*
Pitz, Arthur	*A. G.*	*Durham*
Powers, Richard Connor	*Pre-Med.*	*Manchester*
Prentice James Mason	*A. G.*	*Holyoke, Mass.*
Quimby, Clyde Warren	*E. E.*	*Claremont*
Rahn, Laurette Mary	*A. G.*	*Manchester*
Randall, John Leslie, Jr.	*A. G.*	*Lee*
Rogers, Barron Terry	*Gen. Bus.*	*Franklin*
Ross, Lorenzo Theodore	*Gen. Bus.*	*Somersworth*
Rowe, Alice Martha	*A. G.*	*Exeter*
Rowell, Barbara	*A. G.*	*Bristol*
Rowell, Leonard Dexter	*Educ.*	*Manchester*
Roy, William Joseph	*Gen. Bus.*	*Woodsville*
Rublee, Elizabeth Clark	*A. G.*	*Rochester*
Rumazza, Robert Paul	*M. E.*	*Rochester*
Ryder, Miriam Newell	*A. G.*	*Plaistow*
Sargent, Murray Hiram	*E. E.*	*New London*
Savard, Donald Emile	*Gen. Bus.*	*North Conway*
Sawtelle, Kenneth White	*P. H.*	*Gorham, Maine*
Sawyer, Curtis Boyd	*Hort.*	*South Danbury*
Schnare, Herbert Stewart	*A. G.*	*Berlin*
Schnare, Vernon Archibald	*A. G.*	*Berlin*
Schurman, Joseph Leonard	*A. G.*	*Portsmouth*
Scripture, Charlotte Rosamond	*H. E. I.*	*Surry*
Seward, Grace Eaton	*A. G.*	*Exeter*
Sewell, Chester Balch	*A. G.*	*Dover*
Seymour, Raymond Benedict	*Chem.*	*Dover*

Name	Course	P. O. Address
Shannon, Gertrude	*A. G.*	*Concord*
Shaver, Jessie Veronica	*A. G.*	*Durham*
Sherman, Luceba Jane	*A. G.*	*Croydon*
Shute, Kenneth	*A. G.*	*Whitefield*
Sikoski, Jason Peter	*E. E.*	*Hinsdale*
Small, Norman Libby	*A. G.*	*Manchester*
Smith, Arthur Parker	*A. G.*	*Peterboro*
Smith, Dorothy Clara	*H. E.*	*Lincoln*
Smith, Forrest Asa	*Agr.*	*Laconia*
Smith, Russell Clark	*A. G.*	*Whitefield*
Snow, Dorothy Ada	*A. G.*	*Keene*
Stafford, David Dexter	*M. E.*	*Berlin*
Starke, Margaret Mary	*A. G.*	*Lawrence, Mass.*
Stark, Robert Lawrence	*Gen. Bus.*	*Goffstown*
Stewart, Malcolm Alexander	*A. G.*	*Lakeport*
Stone, John Eaton	*Chem.*	*Northwood Center*
Swail, Clark Ebenezer, Jr.	*Pre-Med.*	*Colebrook*
Szebak, Frank Edward	*M. E.*	*Nashua*
Szlosek, Edward Francis	*Pre-Med.*	*Nashua*
Tasker, Charles Edwin	*Gen. Bus.*	*Dover*
Tatarcuk, Titus Boleslaw	*Educ.*	*Nashua*
Thomas, Philip Charles	*E. E.*	*Claremont*
Thompson, Helen Anna	*A. G.*	*Manchester*
Thompson, Robert Martin	*C. E.*	*Hudson*
Thunberg, Carl Andrew	*D. H.*	*Concord*
Tingley, Mary Alberta	*Hort.*	*Amherst*
Titus, Laurence Spear	*D. H.*	*Fairlee, Vt.*
Tobey, Constance	*H. E.*	*Hampton*
Tonkin, John Fremont	*A. G.*	*Durham*
Toolin, Joseph Patrick	*A. G.*	*Durham*
Torrey, Rena Alesia	*A. G.*	*Keene*
Towle, Alice Stratton	*A. G.*	*Exeter*
Turcott, Dixon Hodgdon	*Pre-Law*	*Concord*
Varney, Kenneth Melville	*A. G.*	*Newmarket*
Varney, Robert Winfield	*Gen. Bus.*	*Dover*
Viano, Lawrence Francis	*A. G.*	*North Hampton*
Waite, Harold Gardner	*A. G.*	*Manchester*
Walker, Frederick Nason, Jr.	*E. E.*	*Manchester*
Walker, James Bartlett	*M. E.*	*Dover*

Name	Course	P. O. Address
Warren, Christine Isabel	*A. G.*	*South Berwick, Maine*
Weeks, Dorothy Laurinda	*A. G.*	*Laconia*
Wells, Lloyd Leslie	*Pre-Med.*	*Woodsville*
Wentworth, Lloyd Hall	*Gen. Bus.*	*Salmon Falls*
Wentzell, Eva Selina	*A. G.*	*Worcester, Mass.*
Whicher, John Clinton	*Gen. Bus.*	*Tilton*
Whitney, Richard Merrill	*Chem.*	*Hampton Beach*
Whyte, Edna Ellen	*A. G.*	*Lancaster*
Wiggin, Ralph Edwin	*A. G.*	*Dover*
Willard, Raymon Charles	*Agr.*	*Temple*
Williams, Dorothy Mae	*A. G.*	*Dover*
Wilson, Beatrice Bethel	*H. E.*	*Dorchester, Mass.*
Winterton, Ruth Ellen	*A. G.*	*Manchester*
Wittenberg, Hyman Herbert	*Chem.*	*Concord*
Wolf, William	*Pre-Med.*	*Milford*
Wood, Kenneth H.	*A. G.*	*Hanover*
Woodward, Florence Dewhurst	*H. E.*	*Berlin*
Wooldridge, Sydney Milton	*A. G.*	*Laconia*
Worthen, John Henry	*M. E.*	*Plymouth*
York, John Weare	*A. G.*	*Kensington*
Young, Hammond Alvah	*A. G.*	*South Acworth*
Young, Rebecca	*Gen. Bus.*	*Exeter*
Zolkos, Stasia Blanche	*Educ.*	*Pelham*

JUNIORS

(Men, 247; Women, 105; Total, 352)

Name	Course	P. O. Address
Abbiati, Osvaldo	*E. E.*	*Barre, Vt.*
Adams, Ramona	*H. E.*	*Seabrook*
Ahern, Cornelius J.	*Agr. Tr.*	*Charlestown*
Ahern, Richard Favor	*Gen. Bus.*	*Concord*
Allard, Harrie Martin	*M. E.*	*Salem Depot*
Allen, Adrian Frederick	*E. E.*	*Dover*
Anderson, Beda Louise	*Educ.*	*Durham*
Anderson, Paul Lincoln	*C. E.*	*Berlin*
Andrews, Robert Orin	*Educ.*	*Medford, Mass.*
Armstrong, Allan Russell	*Arch.*	*Plymouth, Mass.*
Averill, Edward Hicks	*Educ.*	*Durham*

JUNIORS

Name	Course	P. O. Address
Bacheller, George Preston	*A. H.*	*Concord*
Baker, John Henry	*Gen. Bus.*	*Concord*
Bakie, John James	*A. H.*	*Kingston*
Ball, Elisabeth Ianson	*A. G.*	*Melrose, Mass.*
Banfill, Clarence Albert	*D. H.*	*Colebrook*
Barker, Shirley Frances	*A. G.*	*Farmington*
Barnaby, Elizabeth Linton	*A. G.*	*Brookline*
Barnett, George Morrill	*M. E.*	*Penacook*
Barney, Richard John	*Gen. Bus.*	*Whitefield*
Basim, Mary Mercedes	*A. G.*	*Portsmouth*
Batchelder, Edward Sherman	*Agr.*	*Cliftondale, Mass.*
Batchelder, Walter Earl	*Educ.*	*Durham*
Bateman, Robert Taylor	*Educ.*	*Concord*
Battles, Chester Warren	*Pre-Law*	*Manchester*
Bean, Margaret Theda	*A. G.*	*Orford*
Bell, Henry Theodore	*Gen. Bus.*	*Concord*
Bemis, Merle Vincent	*Pre-Med.*	*Conway Center*
Benedict, William Frederick	*A. G.*	*Berlin*
Beverstock, Malcolm Green	*A. G.*	*Keene*
Black, Rochelle Isabelle	*A. G.*	*Nashua*
Blackwell, Clyde King	*A. G.*	*Rochester*
Blanchard, Byron Moore	*C. E.*	*Plymouth, Vt.*
Blombach, Gunther	*Pre-Med.*	*Marlboro*
Blood, Edward Johnston	*For.*	*Hanover*
Boucher, Roy Rolland	*Gen. Bus.*	*Manchester*
Bowen, Conradene Booth	*H. E.*	*Charlestown*
Bowler, Donald Everett	*Educ.*	*Milford*
Bowman, Harold Melville	*Gen. Bus.*	*Salmon Falls*
Brett, Henry Frank	*Gen. Bus.*	*Belmont, Mass.*
Brown, Richard Elmer	*M. E.*	*Wentworth*
Bruce, Gordon G.	*For.*	*Claremont*
Bruce, Robert Francis	*A. G.*	*Exeter*
Brunel, Donald James	*Educ.*	*Concord*
Brunelle, Lucien	*Educ.*	*North Haverhill*
Bryant, Raymond Arthur	*For.*	*Conway*
Bucknam, Romeo James	*A. G.*	*Berlin*
Cameron, John	*P. H.*	*Hudson*
Caminati, Delpho John	*A. G.*	*Portsmouth*
Carlisle, Duane Frank	*E. E.*	*Northwood Center*

Name	Course	P. O. Address
Carlisle, Nancy Elizabeth	*H. E.*	*Concord*
Carswell, Mary Frances	*Phys. Ed.*	*Gorham, Maine*
Casci, Paul Francis	*Gen. Bus.*	*Concord*
Cassell, Norman Stanley	*Chem.*	*Dover*
Castello, Renato Alphonse	*Educ.*	*Woodsville*
Charest, Leandre Roger	*Pre-Med.*	*Manchester*
Chase, John Philip	*Educ.*	*Henniker*
Chesley, Harrison Webster	*A. H.*	*Lynn, Mass.*
Christiansen, Trygve Christian	*C. E.*	*Berlin*
Christophil, Theodore Anthony	*A. G.*	*Manchester*
Clements, Leonard Frederick	*Gen. Bus.*	*Farmington*
Coates, William Herbert	*E. E.*	*Pittsburg*
Cochrane, Mildred Minnie	*H. E.*	*Henniker*
Colby, Stanley Wood	*A. H.*	*West Lebanon*
Condon, Amasa Gessner	*Arch.*	*Berlin*
Congdon, Linwood Harvey	*A. G.*	*Troy*
Conner, Alfred Farnham	*A. H.*	*Exeter*
Cooper, Bernice Mae	*H. E.*	*Lincoln*
Corriveau, Elizabeth Emma	*A. G.*	*Melrose, Mass.*
Corson, Emerson	*A. G.*	*Rochester*
Corti, Virgilio Antonio	*Pre-Med.*	*Mamaroneck, N. Y.*
Couser, Irene Jane	*A. G.*	*Dover*
Couturier, Armand Sylvio	*Educ.*	*Somersworth*
Crawford, Clayton Harold	*A. G.*	*New London*
Cree, Norman Frank	*D. H.*	*Colebrook*
Cross, Almon Rufus	*Pre-Med.*	*Colebrook*
Crowell, Lewis Williams	*A. G.*	*Barrington, R. I.*
Crowley, Katherine Julia	*A. G.*	*Hanover*
Crump, Arlene Bernice	*A. G.*	*Nashua*
Cunningham, Gordon Lee	*A. G.*	*Lincoln, Mass.*
Dane, Frederick Warren	*A. G.*	*Marblehead, Mass.*
Dane, Lucile	*A. G.*	*Nashua*
Danforth, Constance	*H. E.*	*West Newton, Mass.*
Davidson, Frances Louise	*A. G.*	*Plymouth*
Davis, Emery Edward	*M. E.*	*Pittsfield*
Davis, Evelyn N.	*A. G.*	*Durham*
Dawson, Edward Colin	*A. G.*	*New York, N. Y.*
Day, Thomas Underwood	*Pre-Med.*	*Danielson, Conn.*
DeCapot, Francis Edwin Neilson	*Educ.*	*Antrim*

Name	Course	P. O. Address
Dee, John Foley	*Pre-Med.*	*Keene*
DeRonde, Ralph Edwin	*P. H.*	*Temple*
DeVarney, Ruth Victoria	*H. E.*	*Laconia*
Dickey, Ira William	*M. E.*	*Manchester*
Diotte, Norbert Irenee	*E. E.*	*Newport*
Dirsa, Mitchell Paul	*Arch.*	*Exeter*
Doe, Roger Morton	*Chem.*	*Dover*
Dorson, Benjamin Samuel	*Pre-Law*	*Keene*
Downs, Robert Francis	*A. G.*	*New Brighton, N. Y.*
Duke, Cleon	*A. G.*	*Manchester*
Duke, Clesson	*A. G.*	*Manchester*
Dunn, Henry Arthur	*A. G.*	*Shirley, Mass.*
Duston, Harold Edwin	*Chem.*	*Hampstead*
Eastwick, John	*C. E.*	*South Tamworth*
Ekstrom, Stanley Edson	*Gen. Bus.*	*West Concord*
Emerson, Elizabeth Josephine	*A. G.*	*Fitzwilliam*
Esersky, S. Esther	*A. G.*	*Claremont*
Farmer, Elizabeth Barbara	*Educ.*	*Manchester*
Farrington, Samuel Carlton	*Chem.*	*West Claremont*
Fassnacht, Donald Lenhart	*For.*	*Reading, Pa.*
Fatylak, William	*A. G.*	*Manchester*
Felch, J. Eugene	*Gen. Bus.*	*Winchester*
Fellman, David	*A. G.*	*Manchester*
Field, Logan Stanley	*A. G.*	*Watertown, Mass.*
Flanders, Harry Edward	*A. G.*	*Danbury*
Fosher, Harold Bert	*C. E.*	*Bedford*
Foster, Everett C.	*M. E.*	*Windham*
Freeman, Stanley Whitman, Jr.	*A. G.*	*Exeter*
Freese, Christine	*A. G.*	*Bristol*
French, Kent Alden	*M. E.*	*Exeter*
Frost, Leonard Rudolph	*A. G.*	*Concord*
Gaffney, Edward Joseph	*Chem.*	*Nashua*
Gardner, Hamilton Mason	*Chem.*	*Swansea, Mass.*
Garrett, Priscilla Hodgdon	*H. E.*	*Portsmouth*
Gibbons, William Edward	*A. G.*	*Dover*
Gibson, Sidney Louis	*M. E.*	*Portsmouth*
Glazier, Priscilla	*A. G.*	*Salem*
Goodrich, Burton Jared	*Arch.*	*Exeter*
Goodwin, Dana Everett	*P. H.*	*Hollis*

Name	Course	P. O. Address
Gould, Ernest Wilson	*For.*	*Hinsdale*
Graffam, Charles Albert	*Educ.*	*Everett, Mass.*
Graham, Phebe Ellen	*H. E.*	*Lebanon*
Gray, Roger Davis	*Chem.*	*Dover*
Grimes, William Alvan	*Gen. Bus.*	*Dover*
Hadlock, Natalie Margaret	*A. G.*	*Manchester*
Hall, Dorothy Davis	*H. E.*	*Windham*
Hall, Howard Joseph	*Gen. Bus.*	*Franklin*
Hamel, Fernand Arthur	*Pre-Med.*	*Laconia*
Hamm, Harold William	*E. E.*	*Concord*
Hancock, Parker Lambert	*Gen. Bus.*	*Concord*
Hangas, Arno John	*Agr.*	*New Ipswich*
Hanna, Edward James, Jr.	*Pre-Law*	*West Swanzey*
Haphey, Robert	*Educ.*	*Andover, Mass.*
Hare, Thelma Evelyn	*A. G.*	*Amherst*
Hazen, Elizabeth Storrs	*A. G.*	*Lebanon*
Henry, Catherine Helen	*A. G.*	*Bethlehem*
Herbert, Dorothea Ames	*H. E.*	*Kingston Plains*
Hill, George Arthur, Jr.	*Pre-Med.*	*Concord*
Hilton, George Winthrop	*A. H.*	*Newmarket*
Hinckley, Leslie Allan	*Chem.*	*Middleboro, Mass.*
Hitchcock, Edward Walter	*E. E.*	*Walpole*
Hixon, Virginia Hamilton	*A. G.*	*Lynn, Mass.*
Hoitt, Robert William	*M. E.*	*Hudson*
Holt, Edith Victoria	*Arch.*	*Nashua*
Holt, Lillian	*A. G.*	*South Lyndeboro*
Hope, Helen Mainland	*A. G.*	*Henniker*
Horton, Marjorie Baker	*H. E.*	*Dorchester, Mass.*
Hourihane, Hilda Patricia	*A. G.*	*Somersworth*
Howard, John Adams	*A. G.*	*Concord*
Howell, Frederick Fisher Taylor	*A. G.*	*Portsmouth*
Jacobs, Marian Fitch	*A. G.*	*Lancaster*
Jaques, George Lawrence	*A. G.*	*Durham*
Jarest, Joseph Rudolph	*E. E.*	*Wilton*
Jefferson, George Downes	*Chem.*	*East Rochester*
Johnson, Gerald Earl	*C. E.*	*Northwood Narrows*
Johnson, Ruth Helen	*A. G.*	*East Jaffrey*
Johnson, Ruth Virginia	*A. G.*	*Portsmouth*
Kamenske, Shirley Dorothy	*A. G.*	*Nashua*

JUNIORS

Name	Course	P. O. Address
Katz, Maurice	*A. G.*	*Manchester*
Kearns, Kenneth Edward	*A. G.*	*Wolfeboro*
Kelly, Dorothy Clark	*Educ.*	*Concord*
Kenison, Arthur Edson, Jr.	*A. G.*	*Ossipee*
Kerwin, John Francis	*C. E.*	*Manchester*
Kimball, Ralph Dunster	*Chem.*	*Greenville*
King, William Chauncey	*Gen. Bus.*	*North Walpole*
Knox, Lewis Alfred	*E. E.*	*Farmington*
Koehler, Brewster Herman	*A. G.*	*Manchester*
Koehler, Richard	*Arch.*	*Manchester*
Kopecki, John Paul	*E. E.*	*Exeter*
Kropp, Frank Joseph	*Pre-Med.*	*Tilton*
Kurtti, John Williams	*M. E.*	*New Ipswich*
Ladd, Helen Gertrude	*A. G.*	*Concord*
Lampron, Joseph Felix	*Arch.*	*Nashua*
Lang, Richard Theodore	*A. G.*	*Somersworth*
Law, William Stabler	*M. E.*	*Nashua*
Lebow, Edgar	*Pre-Law*	*Exeter*
Lehman, Helen Elizabeth	*A. G.*	*New York, N. Y.*
Leighton, Elizabeth Inez	*Educ.*	*Strafford*
Lenahan, Ruth Mary	*A. G.*	*Bellows Falls, Vt.*
Lewis, Arthur Clarence	*C. E.*	*Manchester*
Lewkowicz, Stanley Charles	*Pre-Med.*	*Nashua*
Libby, Theodora Carolyn	*A. G.*	*Rochester*
Loeschner, Roy Charles	*E. E.*	*Salem Depot*
Logee, Ruth Edith	*A. G.*	*Manchester*
Low, Richard Charles	*C. E.*	*Derry*
McCaugney, Andrew Stephen	*Educ.*	*Nashua*
MacDonald, Elsie Margaret	*A. G.*	*Peterboro*
McDonald, George Henry	*Gen. Bus.*	*Keene*
McEgan, Helen Margaret	*Educ.*	*Laconia*
MacFadyen, Donald Edward	*Chem.*	*Dover*
McGraw, John Reginald	*Gen. Bus.*	*Dover*
McGreal, Eleanor Therese	*A. G.*	*Somersworth*
McIntyre, Charles Douglas	*A. G.*	*Whitefield*
McKee, Winston Frederick	*Gen. Bus.*	*Franklin*
McNamara, Robert William	*Gen. Bus.*	*West Lebanon*
Mack, John Halford	*Chem.*	*Claremont*
Maloon, Kenneth Roger	*M. E.*	*Laconia*

Name	Course	P. O. Address
Manley, Thomas Campbell	*C. E.*	*Concord*
Markos, Basil George	*Agr.*	*Dover*
Marston, Herman Stewart	*E. E.*	*Newmarket*
Martin, Cecile	*A. G.*	*Lancaster*
Martin, Nelson Willis	*Pre-Med.*	*Keene*
Martin, Richard Abbot	*A. G.*	*Richmond*
Martineau, Frederick Joseph	*Educ.*	*Portsmouth*
Mathieu, Lillianne	*A. G.*	*Manchester*
Miles, Morey Charles	*C. E.*	*Claremont*
Mitchell, Arthur Edwin	*Hort.*	*Freedom*
Monahan, Charles William	*A. H.*	*East Kingston*
Morin, Cornelius Trueman	*C. E.*	*Derry*
Morin, Wilfred Louie	*A. G.*	*Marlboro*
Morong, Trafford Mortimer	*E. E.*	*Dover*
Morrissey, Francis Lewis	*Educ.*	*Manchester*
Morrissey, Jeremiah Richard	*A. G.*	*Portsmouth*
Munsey, Richard Nathaniel	*E. E.*	*Hampton*
Munton, John Peter	*M. E.*	*Nashua*
Myllymaki, Miriam Helen	*Educ.*	*West Concord*
Nerbonne, Maurice Edward	*E. E.*	*Manchester*
Noyes, Frances Forsythe	*H. E. I.*	*Providence, R. I.*
O'Connell, Helen Mary	*Educ.*	*Manchester*
O'Neil, Roger William	*Pre-Med.*	*Nashua*
Ordway, Clifton Arthur	*Hort.*	*New Hampton*
Osberg, Marjorie Charlotte	*A. G.*	*Manchester*
Osgood, William Maurice	*Educ.*	*Pittsfield*
Paine, Robert Williams	*For.*	*Cranston, R. I.*
Palisoul, Arthur Henry	*M. E.*	*Dover*
Palmer, Richard Orrin	*Arch.*	*Center Ossipee*
Panagoulis, George James	*Pre-Med.*	*Nashua*
Parker, Willard Tyler	*M. E.*	*Colebrook*
Partridge, Leland Mendell	*E. E.*	*Keene*
Pearson, Charles Franklin	*Chem.*	*Portsmouth*
Pearson, Georgiana	*H. E.*	*Stratham*
Pearson, Rhoda F.	*A. G.*	*Madison*
Pendergast, Annetta D.	*A. G.*	*Newmarket*
Perettie, Donald Sabin	*Gen. Bus.*	*Penacook*
Phelps, Gertrude Ethel	*A. G.*	*Durham*
Phelps, Willard Brooks	*A. G.*	*Nashua*

JUNIORS

Name	Course	P. O. Address
Philbrick, Raymond Nute	*Gen. Bus.*	*Conway*
Phillips, Howard Edward	*Gen. Bus.*	*Albany, N. Y.*
Phillips, Margery May	*A. G.*	*Durham*
Pike, Arthur Bradford	*Chem.*	*Melrose Highlands, Mass.*
Pike, Edith Frances	*Phys. Ed.*	*Mill Village*
Platts, Frances Elizabeth	*H. E.*	*Dover*
Pollard, James Henry, Jr.	*Educ.*	*Manchester*
Pray, Estelle Thomas	*H. E.*	*Portsmouth*
Prendergast, Robert Thorpe	*A. G.*	*Claremont*
Price, Trevor Alaric	*C. E.*	*Candia*
Priest, Eliot	*E. E.*	*Nelson*
Prince, Howard Downes	*Agr.*	*New Boston*
Prohaska, Izola Murray	*A. G.*	*New Castle*
Purrington, Carl Hoben	*A. G.*	*Concord*
Putnam, Doris Eleanor	*H. E.*	*Easthampton, Mass.*
Putney, Kathleen May	*A. G.*	*Durham*
Raduazo, Henry Fred	*M. E.*	*Concord*
Rafferty, Terrence John	*A. G.*	*Portsmouth*
Randall, Frank Greenough	*Gen. Bus.*	*Portsmouth*
Rhodes, Arnold Densmore	*For.*	*Lancaster*
Ring, Jonathan Philander	*E. E.*	*Wilton*
Robie, Frances Mary	*Educ.*	*East Andover*
Robinson, DeWitt Clarke	*Arch.*	*Winooski, Vt.*
Rockwood, Helen McNear	*H. E.*	*East Kingston*
Rollins, Ella Louise	*Educ.*	*Raymond*
Romeo, James Peter	*A. G.*	*Milford*
Rosenberg, Theodore	*Pre-Med.*	*Manchester*
Rosi, Frank Joseph	*Pre-Med.*	*Colebrook*
Rossell, Margaret Irving	*A. G.*	*Portsmouth*
Russell, Dorothy	*Educ.*	*Jamaica Plain, Mass.*
Saigh, Ernest John	*A. G.*	*Manchester*
Sargent, Natalie Mae	*A. G.*	*Tilton*
Sargent, Theodore Edward	*A. G.*	*Lebanon*
Sawyer, Roland Judson	*A. G.*	*Brunswick, Maine*
Schricker, Curtis Willard	*Chem.*	*Goffstown*
Searle, Evelyn May	*Educ.*	*Salem*
Serafini, Elvira Lucia	*H. E.*	*Hanover*
Sheehan, Jeremiah Aidan	*Pre-Med.*	*Manchester*

Name	Course	P. O. Address
Sherburne, Harriet Rachel	*A. G.*	*Concord*
Shorey, Phyllis Louise	*A. G.*	*Rochester*
Short, Claire Marie	*A. G.*	*Portsmouth*
Sims, Raymond Silas	*Educ.*	*Manchester*
Sirhakis, Dorothy	*A. G.*	*Somersworth*
Skoby, Sonia Michael	*Educ.*	*Claremont*
Skofield, Helen Elizabeth	*A. G.*	*New Boston*
Skoog, Arthur Warren	*E. E.*	*Keene*
Smalley, Harriet	*H. E.*	*Lynn, Mass.*
Smet, John Edward	*E. E.*	*Manchester*
Smith, Carolyn Cressy	*A. G.*	*Tilton*
Smith, Donald Huckins	*Pre-Law*	*Lincoln*
Smith, Nathalie Clifford	*A. G.*	*Portsmouth*
Smith, Ora Bailey	*For.*	*Hinsdale*
Smith, Warren Ferguson	*Pre-Med.*	*Topsfield, Mass.*
Sousane, George James	*Educ.*	*Nashua*
Stevens, Henry Wheeler	*Arch.*	*Medfield, Mass.*
Stevens, Mary Natalie	*H. E.*	*North Stratford*
Stevens, Ralph Ernest	*Educ.*	*Manchester*
Stimmell, Lee	*A. G.*	*Pittsfield*
Stocker, Laura Agnes	*A. G.*	*Sunapee*
Streeter, Caroline M.	*A. G.*	*Exeter*
Sturges, Hollister, Jr.	*Pre-Law*	*Stone Ridge, N. Y.*
Surowiec, Alfreda Caroline	*Educ.*	*Franklin*
Surowiec, Edward Joseph	*M. E.*	*Franklin*
Swain, Alvah W.	*Arch.*	*Meredith*
Sweeney, George	*Educ.*	*Portsmouth*
Sweetser, John Clifford	*Agr.*	*Portsmouth*
Targonski, Joseph Benedict	*A. G.*	*Worcester, Mass.*
Teague, Ernestine Louise	*A. G.*	*Portsmouth*
Teeri, Elvie Lillian	*Educ.*	*Durham*
Thayer, Geraldine Mary	*Educ.*	*Epping*
Thayer, Olive Josephine	*A. G.*	*Epping*
Thompson, Eunice Lucille	*A. G.*	*Dover*
Tighe, Robert John	*Pre-Law*	*Canaan*
Toft, Sherman Ward	*A. G.*	*Exeter*
Tower, Richard Allerton	*A. G.*	*Maplewood, N. J.*
Tripp, Robert Moses	*A. G.*	*Short Falls*
True, Robert Warren	*A. G.*	*West Lebanon*

SOPHOMORES

Name	Course	P. O. Address
Trzuskoski, Benjamin Bernard	*Educ.*	*Terryville, Conn.*
Tucker, Edward Leon	*A. G.*	*Concord*
Tufts, Ethel	*A. G.*	*Manchester*
Twitchell, Keith Irvin	*C. E.*	*Berlin*
Vaders, William John	*Arch.*	*Manchester*
VanderHoeff, Joseph	*M. E.*	*Manchester*
Varisco, Charles Fulvio	*Gen. Bus.*	*Redstone*
Vaughan, John Robert	*Educ.*	*Manchester*
Wadsworth, Burton Grant	*Gen. Bus.*	*Warner*
Walker, Alice Elizabeth	*Educ.*	*Newmarket*
Wastcoat, Virginia	*A. G.*	*Taunton, Mass.*
Weaver, Theodore Frank	*Gen. Bus.*	*Portsmouth*
Webber, Laurance Edmund	*M. E.*	*Berwick, Maine*
Weeks, John Osborne	*A. G.*	*West Campton*
Wentworth, James Erving	*A. G.*	*Dover*
Wentworth, John Frank	*Chem.*	*Dover*
Werner, Ernest Hugo	*A. G.*	*Manchester*
Whipple, Esther Elaine	*Educ.*	*Lebanon*
White, Winslow Moulton	*A. G.*	*Hampton*
Whitney, Ronald Edward	*For.*	*Pittsfield*
Whittemore, Elizabeth Gowen	*H. E. I.*	*Londonderry*
Wilbur, Mary Elizabeth	*Pre-Med.*	*Dover*
Wilcomb, Dexter Harrison	*Pre-Med.*	*Manchester*
Wilcox, Gloria	*A. G.*	*North Reading, Mass.*
Williams, Frederick Courtney	*Educ.*	*Whitefield*
Wilson, Howard Wilbur	*A. G.*	*Manchester*
Witham, Howard Woodward	*E. E.*	*Keene*
Woodward, Douglas Russell	*C. E.*	*Concord*
Wright, James Morrill	*A. G.*	*Rochester*
York, Charles Lorenzo, Jr.	*Pre-Med.*	*Plymouth*

SOPHOMORES

(Men, 291; Women, 98; Total, 389)

Name	Course	P. O. Address
Abramson, Edmund	*A. G.*	*Berlin*
Adams, Constance Lee	*A. G.*	*Hampton*
Aldrich, Norris Merrill	*Chem.*	*Keene*
Allen, Ira Eugene	*Chem.*	*Littleton*

Name	Course	P. O. Address
Allen, Warren Venson	*For.*	*Durham*
Andberg, Eric Waldemar	*Arch.*	*Concord*
Anderson, Wendell Everett	*Arch.*	*Milan*
Angwin, Harold Everett	*M. E.*	*Concord*
Ansara, Cosmo Michael	*A. G.*	*Lebanon*
Archibald, Gordon Ernest	*A. G.*	*Claremont*
Bachelder, Everett Edward, Jr.	*A. G.*	*Pittsfield*
Badger, Neal Moore	*A. G.*	*Concord*
Bailey, Robert Alden	*Educ.*	*Enfield Centre*
Baker, William Freeman, Jr.	*A. G.*	*Cranston, R. I.*
Baldwin, Edith Theodate	*A. G.*	*Manchester*
Baldwin, Shirley Elizabeth	*A. G.*	*East Kingston*
Ballou, James Monroe	*Educ.*	*Keene*
Bannon, James Henry, Jr.	*Chem.*	*Laconia*
Bartlett, Geneva	*A. G.*	*Derry Village*
Barker, Hiram Leighton	*A. G.*	*Farmington*
Barnard, Clayton Hamlin	*M. E.*	*Keene*
Bartlett, Woodrow Wilson	*M. E.*	*Concord*
Bassett, Gordon Henry	*Chem.*	*Marlboro*
Beamis, Robert Patrick	*A. G.*	*Somersworth*
Belcher, Richard Glenn	*Chem.*	*Fairhaven, Mass.*
Bennett, William Batchelder	*A. G.*	*Hillsboro*
Bickford, Jackson Rockwell	*Arch.*	*Gossville*
Blackey, Lawrence Lumbly	*Chem.*	*Center Harbor*
Blaisdell, Kenneth Lucas	*E. E.*	*Goffstown*
Blake, Genevieve	*A. G.*	*Bristol*
Blodgett, Stanton Bryan	*Chem.*	*Manchester*
Bogart, Dana Crawford	*Pre-Med.*	*Concord*
Bolduc, Lauretta Louise	*A. G.*	*Somersworth*
Bond, Dorothy Mildred	*A. G.*	*Manchester*
Bosselait, Albert Joseph	*Pre-Med.*	*Greenville*
Boucher, Amy Gertrude	*H. E.*	*Groveton*
Bradbury, Muriel Elsie	*A. G.*	*Brunswick, Maine*
Brassard, Roger Paul	*Pre-Med.*	*Laconia*
Bresnahan, Ruth Mae	*A. G.*	*Manchester*
Briggs, Richard Clark	*A. G.*	*Amesbury, Mass.*
Brooks, Howard David	*A. G.*	*Errol*
Brown, Clifton Albert	*Hort.*	*Boscawen*
Brown, Heinz Gerhard	*A. G.*	*Durham*

Name	Course	P. O. Address
Burch, James Godfrey	*Gen. Bus.*	*Hartford, Conn.*
Burnham, William Franklin, Jr.	*A. G.*	*Rye*
Burns, Martha Velmer	*A. G.*	*Manchester*
Calderwood, Walter A., Jr.	*M. E.*	*Nashua*
Carleton, Keith Elliott	*Gen. Bus.*	*Manchester*
Carlin, John Watt, Jr.	*M. E.*	*Manchester*
Carr, Earle Eames	*Pre-Med.*	*Berlin*
Cashman, Joseph John	*Chem.*	*Nashua*
Castello, Luigi Joseph	*A. G.*	*Woodsville*
Caswell, Philip Prentiss	*A. G.*	*Dover*
Caswell, Phyllis Ernestine	*A. G.*	*Laconia*
Caughey, Robert Adams	*Engr.*	*Antrim*
Chagnon, Roger Gerald	*A. G.*	*Nashua*
Chapman, Bertha Margaret	*A. G.*	*Groveton*
Chase, Helen Esther	*H. E.*	*Penacook*
Clark, Eldon Caverly	*E. E.*	*Northwood Ridge*
Clarke, Thomas Matthew	*Educ.*	*Lawrence, Mass.*
Clement, Gladys Mae	*A. G.*	*Meredith*
Clough, Harold Albert	*Gen. Bus.*	*West Alton*
Colburn, Hazel Adair	*H. E.*	*Dracut, Mass.*
Colby, Edward William	*A. G.*	*Londonderry*
Cole, Helen Rosamon	*A. G.*	*Hillsboro*
Conner, Joseph Pease, Jr.	*Gen. Bus.*	*Portsmouth*
Corrigan, Paul Wilson	*A. G.*	*Concord*
Cottam, Leland Bertram	*Educ.*	*West Roxbury, Mass.*
Couture, Philip Gignac	*Agr.*	*Laconia*
Cross, Donald Alan	*M. E.*	*Derry*
Cummings, Elliot Staples	*Gen. Bus.*	*Norway, Maine*
Currier, Harold Fletcher	*A. G.*	*Sunapee*
Dancause, Omer Joseph	*Gen. Bus.*	*Greenville*
Darling, Theodore Everitt	*Gen. Bus.*	*Woodsville*
Davis, Earl Josiah	*C. E.*	*Auburn*
Davis, Grant Livingston	*C. E.*	*Hollis*
Davis, William Daniel	*Pre-Med.*	*Haverhill, Mass.*
Dearborn, Curtis Howard	*Agr.*	*New Boston*
Deene, Kenneth Leslie	*Educ.*	*Exeter*
Desmarais, Charles Joseph	*Pre-Med.*	*Nashua*
DeVittori, Ernando Joseph	*Educ.*	*Milford*
Dimond, Flora May	*A. G.*	*Concord*

Name	Course	P. O. Address
Dinnerman, Hester	*A. G.*	*Portsmouth*
Dodge, Lucretia Faxon	*A. G.*	*New Boston*
Dodge, Mary	*A. G.*	*Durham*
Dolloff, George Howard	*C. E.*	*Stratham*
Dow, Robert Kimball	*A. G.*	*Claremont*
Doyle, Mildred Linfield	*Educ.*	*Concord*
Dube, Louis Ward	*E. E.*	*Gorham*
Dubois, Laurent Oscar	*Engr.*	*Pequaket*
Dustin, Robert Gale	*For.*	*Keene*
Eames, Carl Ernest	*For.*	*Errol*
Eastman, Richard Henry	*For.*	*Jefferson*
Eiseman, Marvin Adrian	*A. G.*	*Bethlehem*
Eiseman, Nathaniel Joseph	*A. G.*	*Bethlehem*
Ekdahl, Naomi Marguerite	*Pre-Med.*	*Durham*
Ellsworth, Clifford Clement	*Agr.*	*Penacook*
Emerson, Glendon Neil	*Hort.*	*Hampstead*
Ernst, Grace Lorene	*A. G.*	*Manchester, Mass.*
Erskine, Ralph Beaumont	*Arch.*	*Randolph, Maine*
Felix, Margaret Harriet	*A. G.*	*Durham*
Fellows, John Orrin	*M. E.*	*Manchester*
Floros, Theodore Nicholas	*A. G.*	*Dover*
Foley, David Lawrence	*E. E.*	*Manchester*
Folsom, John Bickford	*For.*	*West Epping*
Ford, Abbie Minerva	*H. E.*	*Exeter*
Foskett, Aldine Leona	*A. G.*	*Orange, Mass.*
Foss, Elinor Hill	*A. G.*	*Northwood Center*
Foss, Robert Winston	*Arch.*	*Rochester*
Foster, Robert Emerson	*A. G.*	*Concord*
French, Benjamin Jones	*E. E.*	*Merrimack*
French, Kendrick Stephen	*Chem.*	*Center Barnstead*
French, Sara Frances	*A. G.*	*Penacook*
Fuge, Mildred Eleanor	*H. E.*	*Thompsonville, Conn.*
Funston, Robert Curtis	*Gen. Bus.*	*Schenectady, N. Y.*
Furman, William Chester, Jr.	*A. G.*	*Manchester*
Furnans, Albert Dame	*M. E.*	*Farmington*
Gale, Edwin Kimball	*A. G.*	*Concord*
Gale, Ruth Elizabeth	*H. E.*	*Tilton*
Giffin, John Fraser	*A. G.*	*Wilton*
Gilmore, Elizabeth Simons	*H. E.*	*Exeter*

Name	Course	P. O. Address
Glidden, Mary Elizabeth	*A. G.*	*Nottingham*
Glover, Elton Robert	*C. E.*	*Milan*
Gordon, Bernard	*A. G.*	*Manchester*
Goss, Robert Bennett	*Engr.*	*Portsmouth*
Gould, Thomas Dorsey	*Engr.*	*Manchester*
Grenier, Emile Philippe	*Gen. Bus.*	*Manchester*
Griffin, Maurice Van	*E. E.*	*Tilton*
Grinnell, Mary Barbara	*Pre-Law*	*Derry*
Grocott, Charles Henry	*Educ.*	*Nashua*
Grover, Norman James	*M. E.*	*Concord*
Guibord, Loring Ralph	*Arch.*	*Melrose, Mass.*
Hall, Frederick Spaulding	*A. G.*	*Concord*
Hancock, William Frederick	*Educ.*	*Concord*
Hangas, Sigrid Helen	*H. E.*	*New Ipswich*
Hansen, Carl Antonius	*E. E.*	*Berlin*
Harding, George Nelson	*C. E.*	*Claremont*
Harding, Stanley Lauriston	*M. E.*	*Farmington*
Harris, Willard Robert	*A. G.*	*Manchester*
Harvey, Earle Clifton	*A. G.*	*Haverhill, Mass.*
Hayden, Robert Newton	*D. H.*	*Brookline*
Healey, Edward William, Jr.	*Educ.*	*Manchester*
Henderson, Laton Mitchell	*D. H.*	*Merrimack*
Henderson, Winfield John	*E. E.*	*Nashua*
Hilliard, Grace Rebecca	*A. G.*	*Pittsburg*
Hinckley, Dorinda	*Arch.*	*Mamaroneck, N. Y.*
Hodgdon, John Goebel	*A. G.*	*Berlin*
Holmes, Harry Calvin	*Agr.*	*Northwood*
Hooper, Edward Simpson	*A. G.*	*Portsmouth*
Hooz, Lewis Peter	*A. G.*	*Portsmouth*
Hopkins, Richmond Hammond	*Chem.*	*Milford*
Hosmer, Doris Mae	*H. E.*	*Tilton*
Hough, Alfred George	*Gen. Bus.*	*Lebanon*
Hough, Frank Fisher	*Pre-Med.*	*Lebanon*
Howe, Morey Greenwood	*A. G.*	*Manchester*
Howell, Frederick Gilbert	*Chem.*	*Berlin*
Hoyt, Park Rowe, Jr.	*Pre-Med.*	*Laconia*
Huse, Donald Earl	*A. G.*	*North Sutton*
Isherwood, William Lea	*C. E.*	*Berlin*
Jackson, John Arne	*Gen. Bus.*	*Berlin*

Name	Course	P. O. Address
Jackson, Norris Lyman	*For.*	*Rye*
Jensen, Donald Eadie	*Educ.*	*South Portland, Maine*
Johnson, Richard Carlton	*Arch.*	*Antrim*
Jorgenson, Arthur Malcolm	*Hort.*	*Winthrop, Mass.*
Kay, Arlene Winifred	*A. G.*	*Dover*
Kerr, George Elwyn	*For.*	*Medfield, Mass.*
Kidder, Maurice Arthur	*A. G.*	*Laconia*
Kidder, Rita Magdalen	*H. E.*	*Manchester*
King, Linn Agustine	*E. E.*	*Newcastle*
Kinnie, Cora Arlene	*A. G.*	*Dover*
Kirk, Charles Leon	*M. E.*	*Keene*
Knox, Frank Samuel	*Educ.*	*Concord*
Ktistes, Peter John	*E. E.*	*Gloucester, Mass.*
LaMarche, Paul Eaton	*Gen. Bus.*	*Nashua*
Lapeza, Terry Frank	*E. E.*	*Nashua*
Larkin, Richard Charles	*Gen. Bus.*	*Newport*
Laurent, Arthur Adolph, Jr.	*A. G.*	*Keene*
Lavigne, Malcolm Conrad	*A. G.*	*Lebanon*
Learnard, Arthur Trowbridge	*For.*	*Chester*
Levensaler, Whitman	*Pre-Med.*	*Concord*
Libby, Lucille Henrietta	*Educ.*	*North Conway*
Lincoln, Edward Stuart	*A. G.*	*Enfield*
Little, Carroll Phillip	*Chem.*	*Claremont*
Little, Guy Clarence	*Gen. Bus.*	*Concord*
Livingston, Annette Jane	*A. G.*	*Meredith*
Lord, Beatrice Willard	*A. G.*	*East Lebanon, Maine*
Lucinski, William	*C. E.*	*Nashua*
Lyford, John Ellis	*Gen. Bus.*	*Belmont*
Lyon, Albert Martin	*A. G.*	*Dover*
MacArthur, Donald Ridgway	*A. G.*	*Amherst*
McDermott, William Thomas	*Educ.*	*Concord, Mass.*
MacDonald, James Athanasius	*A. G.*	*Intervale*
MacDonald, Mervin Cumming	*Gen. Bus.*	*Portsmouth*
MacDonald, William Joseph	*A. G.*	*Intervale*
MacGowan, Russell Clausen	*Gen. Bus.*	*Dover*
McGrath, Roy James	*A. G.*	*Manchester*
McGuirk, Robert Joyce	*A. G.*	*Dover*
McIsaac, Donald Wallace	*A. G.*	*Concord*
McKiniry, Kenneth Kimball	*Educ.*	*Kearsarge*

Name	Course	P. O. Address
McLaughlin, Harry Burdett	*A. G.*	*Hartford, Conn.*
McLaughlin, William Francis	*Pre-Med.*	*Manchester*
McLeod, Dorothy Evelyn	*H. E.*	*Durham*
McLeod, John Joseph	*Educ.*	*Laconia*
McNally, Charles Edward	*Pre-Med.*	*Groveton*
Mace, Robert Edson	*E. E.*	*Hampton*
Magoon, Leon Ernest	*A. G.*	*Littleton*
Malone, Frank James	*A. G.*	*Tilton*
Manning, Marguerite Patricia	*A. G.*	*Manchester*
Manning, Stanley Lester	*A. G.*	*Concord*
March, Leonard Earl	*A. G.*	*Nashua*
Markos, Simon George	*Pre-Med.*	*Dover*
Marsden, Thomas Alfred, Jr.	*Hort.*	*Rochester*
Marshall, Ethel Elizabeth	*H. E.*	*Salem Depot*
Marshall, Frank William	*A. G.*	*Center Barnstead*
Martel, Marjorie Ellen	*H. E.*	*Hanover*
Martel, Pauline Cecile	*A. G.*	*Manchester*
Martin, Raymond Herbert	*Agr.*	*Raymond*
Mathes, Milo Burnhardt	*Arch.*	*Terryville, Conn.*
Mathews, Carroll Elwyn	*A. G.*	*Rochester*
Maxwell, Robert Eugene	*Gen. Bus.*	*Manchester*
Maynard, Ernest Roland	*Pre-Med.*	*Nashua*
Mecklem, Elizabeth Richards	*A. G.*	*Durham*
Meersman, Alphonse	*A. G.*	*Manchester*
Mellett, Earle Clayton	*C. E.*	*North Woodstock*
Merritt, Ruth Bacon	*A. G.*	*Manchester*
Michael, Edward George	*Pre-Med.*	*Rochester*
Miler, Ruth Lena	*H. E.*	*Charlestown*
Milligan, Robert Louis	*Engr.*	*Manchester*
Moody, Frederick Rockwell	*Hort.*	*Penacook*
Moody, Marion Rena	*H. E.*	*Dover*
Moore, Carolina Hubbard	*A. G.*	*Concord*
Moore, Jean Erskine	*A. G.*	*Penacook*
Moreau, Robert Frederic	*A. G.*	*Manchester*
Moriarty, Maurice James	*A. G.*	*Durham*
Morrell, Barbara Annette	*A. G.*	*Alton*
Morrison, Leonard Leslie	*Chem.*	*Hampton Falls*
Morse, Arthur Arnold	*Gen. Bus.*	*Exeter*
Morse, Claude Vernon	*M. E.*	*Keene*

Name	Course	P. O. Address
Moulton, Kenneth A.	*C. E.*	*Farmington*
Murray, Fred Earl	*A. G.*	*Sunapee*
Murray, George Daniel	*M. E.*	*Concord*
Naimie, Charles Francis	*For.*	*Exeter*
Nason, Donald Biederman	*E. E.*	*Dover*
Nelson, Lawrence Elwyn	*M. E.*	*Eaton Center*
Newell, Edward Chase	*A. G.*	*Derry Village*
Newman, George Donald	*A. G.*	*Keene*
Norton, Charles Edward	*E. E.*	*Rollinsford*
Norton, Richard Lunt	*E. E.*	*Rollinsford*
Nossiff, Harold Joseph	*Pre-Med.*	*Dover*
Novak, Stephen Bernard	*Educ.*	*Claremont*
O'Brien, Evelyn Pease	*A. G.*	*Belmont, Mass.*
O'Malley, William Joseph	*M. E.*	*Manchester*
Omand, Arthur Edison	*C. E.*	*Manchester*
Osgood, Roger Hale	*A. G.*	*Nashua*
Otto, Mae	*A. G.*	*Rochester*
Parker, George Irving, Jr.	*Gen. Bus.*	*Washington*
Parker, Nathaniel Alwais	*Educ.*	*New London*
Parker, Raymond Walter	*Gen. Bus.*	*Brighton, Mass.*
Parkinson, Clifford LeRoy	*Educ.*	*Salem*
Paulson, Ruth Alvena	*A. G.*	*Farmington*
Penn, William W.	*Educ.*	*Mamaroneck, N. Y.*
Perkins, Chester Frank	*Gen. Bus.*	*Laconia*
Perkins, Silance Lorraine	*H. E.*	*South Sudbury, Mass.*
Perrault, Gerald Robert	*A. G.*	*Nashua*
Philbrick, Kenneth Raymond	*M. E.*	*Rye Beach*
Pike, Frank Leslie	*E. E.*	*Durham*
Pike, Leslie Merton	*For.*	*Monroe*
Pike, Maurice Chapman, Jr.	*Gen. Bus.*	*Portsmouth*
Pineo, Barbara Louise	*A. G.*	*Dover*
Pitcher, Gould Simmons	*Arch.*	*East Rochester*
Plaisted, Robert Spaulding	*Pre-Med.*	*Claremont*
Poley, Milton Lytle	*Chem.*	*Berlin*
Prentiss, Charles Henry	*Educ.*	*Lebanon*
Prescott, Douglass Gordon	*Arch.*	*Meredith*
Pryor, Robert Earle	*A. G.*	*Dover*
Putnam, Elsie Katherine	*A. G.*	*Keene*
Putney, Alice Helen	*A. G.*	*Durham*

Name	Course	P. O. Address
Raby, Paul Gordon	*E. E.*	*Nashua*
Raitt, Lorraine Estelle	*A. G.*	*Derry Village*
Rawcliffe, Raymond Shaw	*Gen. Bus.*	*Concord*
Reardon, Kenneth Jeremiah	*A. G.*	*Madbury*
Reiss, Morris	*A. G.*	*Bethlehem*
Redden, Ellen Barbara	*A. G.*	*Dover*
Redfield, John Frederick	*E. E.*	*Dover*
Reed, John Whitman	*Gen. Bus.*	*Rutherford, N. J.*
Reeves, Raoul Bertrand	*Pre-Med.*	*Manchester*
Reney, Everett Ralph	*E. E.*	*Grantham*
Rhome, Margaret Katherine	*A. G.*	*Jefferson*
Richards, Charles Burton	*A. G.*	*Plymouth*
Richardson, Dorothy Ardelia	*A. G.*	*Franklin*
Rines, Howard Nathaniel	*M. E.*	*Concord*
Ring, Allen Greeley	*Chem.*	*Manchester*
Rock, Frank Adam	*Agr.*	*Walpole*
Rogers, Warren Harley	*Agr.*	*Walpole*
Rogler, Fred Adolf	*Educ.*	*Manchester*
Rosen, Milton Jack	*C. E.*	*Portsmouth*
Rowbotham, Arlene Ida	*A. G.*	*Somersworth*
Rowe, Laura Frances	*A. G.*	*Exeter*
Rugg, William Alexander, Jr.	*Gen. Bus.*	*Atkinson*
Russell, Edith	*Educ.*	*Hazardville, Conn.*
St. John, Joseph Andrew	*A. G.*	*Suncook*
Salden, Arthur Harris	*Pre-Med.*	*Portsmouth*
Saliba, Moses Adib	*Gen. Bus.*	*Plymouth*
Sanborn, Kenneth Oliver	*E. E.*	*Potter Place*
Sawyer, Henry Ryder	*Gen. Bus.*	*South Danbury*
Sawyer, Winslow Allen	*M. E.*	*Antrim*
Scanlan, John Anthony	*A. G.*	*Boston, Mass.*
Schofield, Wilbrum Russell	*Arch.*	*North Attleboro, Mass.*
Scudder, Elizabeth Hungerford	*A. G.*	*Durham*
Seavey, Donald Barker	*C. E.*	*Milford*
Seavey, Samuel Fuller	*A. G.*	*Rochester*
Shanahan, Marguerite Frances	*A. G.*	*Somersworth*
Sharpless, Ridgway Vaughan	*For.*	*Springdale, Pa.*
Slobodzian, Jane Olga	*A. G.*	*New Haven, Conn.*
Smart, Richard Clough	*A. G.*	*Portsmouth*
Smith, Caroline Gertrude	*A. G.*	*Dover*

Name	Course	P. O. Address
Smith, Lillian Louise	*A. G.*	*Dover*
Smith, Muriel Ruth	*A. G.*	*Exeter*
Stahl, Geraldine	*A. G.*	*Berlin*
Starie, John Hayden	*A. G.*	*Amherst*
Steeves, Ford Orison	*A. G.*	*Dover*
Steffy, James Edgar	*A. G.*	*Providence, R. I.*
Sterling, Lucille Helen	*Phys. Ed.*	*Rye*
Stevens, Dorothy Helen	*A. G.*	*Dover*
Stevens, Lester Charles	*Agr. Tr.*	*Walpole*
Stewart, Glen William	*A. G.*	*East Rochester*
Stone, Henry Lewis	*Gen. Bus.*	*Haverhill, Mass.*
Stylianos, Thomas	*Educ.*	*Nashua*
Sulloway, Alexander Mark	*A. G.*	*Berlin*
Sumner, George Harding	*Chem.*	*Portsmouth*
Swiklas, John George	*M. E.*	*Terryville, Conn.*
Taylor, Charlotte Mary	*A. G.*	*Lakeport*
Taylor, Samuel Frederick	*A. G.*	*Durham*
Taylor, Wallace	*Chem.*	*Hudson*
Telge, Harold Wadi	*Pre-Med.*	*Manchester*
Thayer, Robert Wayne	*A. G.*	*Berlin*
Thibodeau, Eva Pamelia	*A. G.*	*Newport*
Thompson, Anna Lotta	*A. G.*	*Whitefield*
Thompson, Eleanor Reba	*A. G.*	*Berlin*
Thompson, Elizabeth Mary	*Educ.*	*Whitefield*
Thompson, Myrtle Alice	*H. E.*	*Durham*
Thorpe, Justin	*A. G.*	*Manchester*
Tibbetts, Robert Franklin	*Chem.*	*Somersworth*
Tobey, Margaret	*H. E.*	*Hampton*
Tobin, Arthur Robert	*M. E.*	*Manchester*
Toll, Arthur Erich	*A. G.*	*Manchester*
Toussaint, Albert Roland	*Pre-Med.*	*Berlin*
Tower, Bertram Bailey	*Gen. Bus.*	*Maplewood, N. J.*
Towle, Ruth Elizabeth	*A. G.*	*Dover*
Trow, Henry Willis	*Gen. Bus.*	*Sunapee*
Truka, Elizabeth Patricia Mary	*A. G.*	*Berlin*
Tucker, Harold Atwood	*A. G.*	*West Lebanon*
Tucker, Leland David	*Arch.*	*Concord*
Tuttle, Edward Donald	*A. G.*	*Laconia*
Tuxbury, Robert Lincoln	*C. E.*	*Etna*

Name	Course	P. O. Address
Ulricson, John Russell	*M. E.*	*Milford*
Vadeboncoeur, Frank Robert	*Gen. Bus.*	*Manchester*
Vangos, Demetrius Christos	*Agr.*	*Hudson*
Vitagliano, Guy Robert	*Chem.*	*Concord*
Waananen, Arvi Olavi	*C. E.*	*Concord*
Walker, Frederick Collins	*A. G.*	*Riverside, R. I.*
Wallin, Josephine Marie	*A. G.*	*Gossville*
Warren, Burtt Ellmore, Jr.	*A. G.*	*Nashua*
Watkins, Elizabeth Rose	*Arch.*	*Reeds Ferry*
Webster, Sumner Stevens	*A. G.*	*Nashua*
West, Harry	*Agr.*	*Brookline, Mass.*
Weston, Ruth Louise	*A. G.*	*Keene*
Wheeler, Kenneth Theodore	*For.*	*Milford*
Whitcher, Robert Harold	*M. E.*	*Strafford*
White, Roland Henry	*A. G.*	*Lancaster*
White, Silas Wyman	*Chem.*	*Fitzwilliam Depot*
Whitehead, Bernice Irene	*A. G.*	*Methuen, Mass.*
Whittemore, David Tyler	*M. E.*	*West Andover*
Wiitala, Matti	*E. E.*	*Hubbardston, Mass.*
Wilde, Ronald Barnard	*E. E.*	*North Attleboro, Mass.*
Wilder, Marshall Peterson	*A. G.*	*Peterboro*
Wilkins, Harold Hartshorn	*M. E.*	*Milford*
Wilson, George Thomas	*A. G.*	*Portsmouth*
Winer, Robert Edward	*A. G.*	*Nashua*
Winter, Mary Sibley	*Educ.*	*Newport*
Witham, Edith Harriette	*H. E. I.*	*Portsmouth*
Witham, Ruth Louise	*A. G.*	*Keene*
Wood, Frederick MacDonald	*A. G.*	*Derry*
Wootton, Violet Bell	*H. E. Tr.*	*Wolfeboro*
Wright, Barbara Saunders	*A. G.*	*Danvers, Mass.*
Wright, Lemuel Dary	*Chem.*	*Nashua*
Wright, Melvin Adams	*E. E.*	*Keene*
Wytrwat, Matthew Joseph	*M. E.*	*South Barre, Mass.*
Young, Ella Marie	*A. G.*	*Whitefield*

FRESHMEN

(Men, 354; Women, 121; Total, 475)

Name	Course	P. O. Address
Abbott, Frank Russell	*Gen. Bus.*	*Peterboro*
Abbott, Paul Carleton	*Agr.*	*Tilton*
Abbott, Ralph Edmund	*A. G.*	*Wolfeboro*
Ahern, Francis Thomas	*A. G.*	*Manchester*
Alden, Isabel Nellie	*A. G.*	*Hampton*
Anton, James	*Pre-Med.*	*Concord*
Arkell, Eleanor Kathleen	*A. G.*	*Dover*
Atherton, Thomas Wheelock	*Gen. Bus.*	*West Lebanon*
Atkinson, Alfred Adams	*M. E.*	*Tilton*
Avery, Donald William	*Chem.*	*Plymouth*
Backer, Allen Alphonse	*Pre-Law*	*Nashua*
Baer, Arnold Maurice	*Pre-Med.*	*Dover*
Bagnell, John Arthur Kendall, Jr.	*For.*	*Salem Depot*
Bailey, Charles Onslow	*Arch.*	*Hampstead*
Baldwin, Dorothy	*A. G.*	*Wilton*
Ballard, Horace Charles	*Agr.*	*Penacook*
Balon, Peter	*Educ.*	*Manchester*
Barker, Kenneth Townsend	*Chem.*	*Bridgewater*
Barnes, Kathryn Moore	*Phys. Ed.*	*Saugus, Mass.*
Barrett, Earl Hall	*M. E.*	*Lisbon*
Barrett, Robert Gaius	*M. E.*	*Berlin*
Barton, David Calvin	*For.*	*Amesbury, Mass.*
Bateman, Mary	*A. G.*	*North Stratford*
Beale, Arleta Mary	*A. G.*	*Exeter*
Beatty, William James	*For.*	*Manchester*
Belcher, Charles, Jr.	*Pre-Med.*	*East Andover*
Belinsky, Hyman Simson	*Chem.*	*Rochester*
Belyea, Byard Charles	*Pre-Med.*	*Dover*
Bent, Clarence Farrar	*P. H.*	*Hudson*
Betley, John Daniel	*Arch.*	*Manchester*
Bickford, Albert Greenlief	*Pre-Med.*	*Rochester*
Bienvenue, Richard Henry	*Gen. Bus.*	*Manchester*
Boardman, Leslie Eugene	*M. E.*	*Goffstown*
Bollea, Carlina	*A. G.*	*Hanover*
Bondar, Andrew Arthur	*Pre-Med.*	*Manchester*
Borwick, Bessie	*A. G.*	*Portsmouth*

Name	Course	P. O. Address
Boston, Eleanora Doris	*Phys. Ed.*	*Dover*
Bowden, Russell Walker	*Agr.*	*South Deerfield*
Bowker, Robert Edgar	*Pre-Law*	*Whitefield*
Boyd, Howard Phillips	*Pre-Med.*	*Billerica, Mass.*
Brady, Daniel James	*M. E.*	*Newmarket*
Brazel, Arline Eleanor	*A. G.*	*Hartford, Conn.*
Bronstein, Benjamin Richard	*Pre-Med.*	*Manchester*
Brown, Barbara Rand	*A. G.*	*Deerfield*
Brown, Merlin Stewart	*Gen. Bus.*	*West Thornton*
Brown, Walter Elmer	*For.*	*Concord*
Bryan, Arthur William	*Chem.*	*Wilton*
Buchan, Ronald Forbes	*Pre-Med.*	*Concord*
Bume, Frederic Louis	*Chem.*	*Newfields*
Bumford, Forrest Henry	*E. E.*	*Dover*
Bunker, Mildred Jessie	*H. E.*	*Kingston*
Burns, Paul William	*Pre-Med.*	*Manchester*
Burns, Thomas Russell, Jr.	*Pre-Law*	*Manchester*
Butson, Hazel Alberta	*A. G.*	*Woodsville*
Cacioppo, Frances Ann	*A. G.*	*Hanover*
Caldwell, Constance	*H. E.*	*Port Washington, N. Y.*
Campbell, Anthony Theodore	*Pre-Law*	*Warren, R. I.*
Campbell, Sheffield Smith	*A. G.*	*Enfield*
Cannell, Charles Frederick	*A. G.*	*Lebanon*
Carlisle, Winnifred Abbott	*H. E.*	*Concord*
Carnegie, Esther Fisher	*A. G.*	*Rochester*
Caros, Paul Nicholas	*Chem.*	*Nashua*
Carr, Gordon Everett	*M. E.*	*Beebe River*
Carrico, Richard Thayer	*M. E.*	*Port Washington, N. Y.*
Carter, Jean Paul	*C. E.*	*Concord*
Cassidy, Thomas Henry	*M. E.*	*Portsmouth*
Chandler, Earle Walter	*Gen. Bus.*	*Bartlett*
Chase, Arthur Angelo	*A. G.*	*Manchester*
Chase, Jeremiah Allen	*C. E.*	*Seabrook*
Cheever, Lewis Alton	*Educ.*	*Charlestown*
Christopher, Philip Charles	*Pre-Law*	*Groveton*
Churchill, Eugene Thomas	*A. G.*	*North Stratford*
Clark, Nina Edith	*A. G.*	*Franconia*
Clark, Richard Irving	*A. G.*	*Rochester*
Clarke, Robert Batchelder	*Chem.*	*Portsmouth*

Name	Course	P. O. Address
Cochran, Robert Lee	*Chem.*	*Andover*
Coffin, James Kenneth	*Pre-Med.*	*Alton*
Colby, Byron Earle	*Agr.*	*West Lebanon*
Colby, Robert Lawrence	*A. G.*	*Bow*
Colby, Vera Susie	*A. G.*	*Newton Junction*
Cole, Wilbur Vose	*A. G.*	*Durham*
Comolli, Joseph Frederick	*E. E.*	*Concord*
Conathan, Eleanor Anne	*Phys. Ed.*	*East Rochester*
Conner, Alfred, Jr.	*Gen. Bus.*	*Newfields*
Connor, Isabel Ann	*A. G.*	*Manchester*
Conroy, Joseph Vincent	*C. E.*	*Manchester*
Corbett, Elizabeth Rose	*A. G.*	*Concord*
Corcoran, William Vincent	*C. E.*	*Manchester*
Corosa, Julius	*Pre-Med.*	*Nashua*
Cotton, Marion Smith	*A. G.*	*Warren*
Coulombe, Laurel Joseph	*Chem.*	*Manchester*
Cowden, Herbert Bayley	*C. E.*	*Amesbury, Mass.*
Cox, Rachel Mae	*A. G.*	*Lisbon*
Coyne, John William	*A. G.*	*Manchester*
Craig, Clark Albert	*Agr.*	*Antrim*
Cram, Lucy Ellen	*H. E.*	*Hampton Falls*
Craton, Evelyn Frances	*A. G.*	*Hillsboro*
Crawford, Edward William	*Pre-Med.*	*Somersworth*
Cronin, Edward Wright	*Chem.*	*Goffstown*
Cummings, Mildred Louise	*H. E. I.*	*Lyndeborough*
Currier, Edward Henry	*A. G.*	*Pelham*
Currier, Herbert Stanley	*A. G.*	*Pelham*
Cutter, Arthur Hardy	*For.*	*Pelham*
Damsell, William Lafayette	*E. E.*	*Exeter*
Davenport, Ruth	*A. G.*	*South Danbury*
Davis, Edgar Alonzo	*A. G.*	*Dover*
Davis, Harlan James	*M. E.*	*Northwood*
Davison, Elizabeth Ella	*Educ.*	*Woodsville*
Davol, Madeleine	*A. G.*	*Manchester*
Dearborn, Edna Lougee	*Chem.*	*Laconia*
Demers, Henry	*Educ.*	*Manchester*
Dorsey, Joseph Shepherd	*E. E.*	*Laconia*
Dowst, George Fowler	*Agr.*	*Short Falls*
Drago, Vincena Mary	*A. G.*	*Milford*

Name	Course	P. O. Address
Duffy, Thomas Finucane	*A. G.*	*Dover*
Dunbar, James Brown	*A. G.*	*Magnolia, Mass.*
Durgin, Chesley Folsom	*A. G.*	*Newmarket*
Duston, Christine Maude	*A. G.*	*Plaistow*
Edson, George Harding	*A. G.*	*West Lebanon*
Eldredge, Walter Neil	*M. E.*	*Portsmouth*
Elgland, Waino William	*Agr.*	*West Concord*
Elgosin, Emid	*Chem.*	*Whitefield*
Ellingwood, Cecil Frederic	*C. E.*	*Newport*
Elliott, Blanche Evelyn	*A. G.*	*Rumney*
Elliott, Robert Henry	*Chem.*	*Concord*
Emery, Walter Arthur	*A. G.*	*Manchester*
Fenwick, Marston Seavey	*A. G.*	*Portsmouth*
Filion, Robert Henry	*A. G.*	*Newmarket*
Finn, John Joseph, Jr.	*A. G.*	*Newfields*
Fish, James Hamilton	*M. E.*	*Gorham*
Fish, Ralph Milton	*Gen. Bus.*	*East Kingston*
Flansburg, Jesse Bryan	*Educ.*	*Manchester*
Floyd, Grant Almond	*A. G.*	*South Tamworth*
Foss, Edward Wilbur	*M. E.*	*Laconia*
Foss, Esther Josephine	*A. G.*	*Exeter*
Foster, Robert Kenney	*A. G.*	*Walpole*
Fournier, Antoine Arthur	*Gen. Bus.*	*Somersworth*
Fowler, Doris Mary	*A. G.*	*Dover*
Fowler, Eleanor Etta	*A. G.*	*Rochester*
Frazer, James Oscar	*M. E.*	*Monroe*
Freaman, Esther	*A. G.*	*Dover*
Freeman, William Howard	*Educ.*	*Wells, Maine*
Freese, Elizabeth	*A. G.*	*Bristol*
Fuller, Barbara	*H. E.*	*Atkinson*
Fulton, George Lyman	*A. G.*	*Manchester*
Gadd, Samuel Ross	*M. E.*	*Farmington*
Gagnon, Wallace Placid	*A. G.*	*Center Strafford*
Galway, Richard Edward	*Gen. Bus.*	*Manchester*
Gardner, Miriam Esther	*A. G.*	*Exeter*
Gates, Hesslar Howell	*M. E.*	*Charlestown*
Gaw, Edson David	*Gen. Bus.*	*Hampton*
Gazda, Stanley	*Gen. Bus.*	*Newmarket*
George, Harry Allan	*C. E.*	*Newton Centre, Mass.*

Name	Course	P. O. Address
Gifford, William Herbert	*Pre-Med.*	*Concord*
Gilbert, Geraldine Goldsmith	*H. E.*	*North Stratford*
Gilman, Sewell Willobe	*Agr. Tr.*	*Walpole*
Goddard, George Orsfield, Jr.	*E. E.*	*Ashland*
Goldsmith, Kennard Entwistle	*Educ.*	*Portsmouth*
Goodman, Robert Alfred	*A. G.*	*Lebanon*
Goodwin, Delmar Winkley	*A. G.*	*Concord*
Goodwin, Doris Ruberta	*A. G.*	*Piermont*
Gordon, Samuel Lloyd	*For.*	*Goshen*
Gouck, Harry Kidd	*Agr.*	*Andover, Mass.*
Gowen, Helen Ardelle	*A. G.*	*Sanford, Maine*
Grady, Frederick Joseph, Jr.	*E. E.*	*East Derry*
Granville, Gladys Hoagland	*Phys. Ed.*	*Madison*
Grasso, Salvatore	*Chem.*	*Milford*
Greene, Patrick John	*A. G.*	*Windham*
Greer, John Daniel	*E. E.*	*Portsmouth*
Grenier, Rita Esilda	*Phys. Ed.*	*Manchester*
Grimes, Dorothy Jeannette	*A. G.*	*Dover*
Gritz, Edwin Dvon	*A. G.*	*Adams, Mass.*
Groux, Kathleen Audrey	*A. G.*	*Manchester*
Grover, William Sherman	*C. E.*	*Dover*
Guillow, Chester Roy	*Chem.*	*Keene*
Gunn, Rosamond Theodora	*A. G.*	*Peterboro*
Guy, John Joseph	*M. E.*	*Lincoln*
Gwynne, Arthur Willard	*A. G.*	*Sunapee*
Hale, Walter Stanley	*Agr.*	*East Rindge*
Haley, Shubel Carpenter	*E. E.*	*Dover*
Hamlin, Robert Gould	*Gen. Bus.*	*Concord*
Hamlin, Roland Gott	*Chem.*	*Manchester*
Hanscom, Rose Elizabeth	*H. E.*	*Nashua*
Hanson, Russell Sanborn	*A. G.*	*Tilton*
Harden, Reba Higgins	*A. G.*	*Centre Ossipee*
Harding, Jasper Joseph	*Agr.*	*West Lebanon*
Harriman, Charles David	*Gen. Bus.*	*Goffstown*
Harvey, Donald W.	*Chem.*	*Hillsboro*
Hatch, Robert Harris	*Pre-Med.*	*Dover*
Haubrich, Richard Tutherly	*E. E.*	*Claremont*
Hayes, Gordon Merritt	*Chem.*	*Dover*
Hazlett, Alice Janet	*A. G.*	*Durham*

Name	Course	P. O. Address
Hazzard, David Henry	*E. E.*	*Berlin*
Heath, Leo Addison	*A. G.*	*Concord*
Henderson, Helen	*Pre-Med.*	*Durham*
Hennessy, John Douglas	*A. G.*	*Plaistow*
Henson, Dayton Mace	*Agr.*	*Winchester*
Herlihy, Maurice Kendall	*A. G.*	*Wilton*
Hermes, Isabelle Kretzer	*H. E.*	*Mystic, Conn.*
Hilton, George Libby	*Pre-Med.*	*Milton*
Hodgdon, Edwin Knight	*A. G.*	*Epping*
Holmes, Mary Wright	*H. E.*	*Stoneham, Mass.*
Holt, Harmon George	*Chem.*	*Dover*
Holt, Parker Edward	*M. E.*	*South Lyndeboro*
Hooper, Henry Lloyd	*Agr.*	*Rochester*
Hopps, VanBuren Frederick	*A. G.*	*Groveton*
Horne, Norman Philip	*Gen. Bus.*	*Rochester*
Horton, George Stillman, Jr.	*M. E.*	*Plaistow*
Hosmer, Barbara Ann	*A. G.*	*Westfield, Mass.*
Hosmer, Berkeley	*E. E.*	*Tamworth*
Hosmer, Donald Gilbert	*Pre-Med.*	*Manchester*
Hoyt, Fred Willis, 3rd	*Chem.*	*Weirs*
Hubbard, Edward Orton	*Pre-Med.*	*Peterboro*
Huddleston, Eleanor Louise	*A. G.*	*Durham*
Hunter, Duncan Upham	*For.*	*West Claremont*
Huse, James Austin	*Chem.*	*Gorham, Maine*
Hussey, Ruth Alberta	*A. G.*	*Greenland*
Israel, Eli Stanley	*A. G.*	*Henniker*
Jeannotte, Robert Francis	*Chem.*	*Nashua*
Johnson, Carl Andrew	*C. E.*	*Milford*
Johnson, Milton Grant	*Pre-Law*	*Warren, R. I.*
Jones, Chester Lawrence	*Chem.*	*East Alstead*
Jones, Delmer Faunce	*Gen. Bus.*	*Franconia*
Jones, Evelyn Marjorie	*Pre-Med.*	*Portsmouth*
Jositas, Leo Edward	*Arch.*	*Nashua*
Joslin, Charles Sumner	*M. E.*	*N. Attleboro, Mass.*
Karkavelas, Paul George	*A. G.*	*Dover*
Keefe, Richard Harold	*Pre-Law*	*Dover*
Keith, George Moore	*Agr.*	*Dover*
Kidder, William Foster	*Gen. Bus.*	*New London*
Kimball, Wallace Larkin	*M. E.*	*Derry*

Name	Course	P. O. Address
Kimball, William Richard	*A. G.*	*Andover, Mass.*
Knapp, Janice	*A. G.*	*Concord*
Knight, Lawrence Wendell, Jr.	*A. G.*	*Concord*
Knott, Gertrude Dorothea	*A. G.*	*Portsmouth*
Kolodziej, Benjamin John	*A. G.*	*Haverhill, Mass.*
Koper, Zygmond	*A. G.*	*Salem Depot*
Kopka, Victoria Claire	*A. G.*	*Exeter*
Kostick, Max	*Pre-Med.*	*Farmington*
Lambert, Robert Roger	*A. G.*	*Manchester*
Lamy, Robert Ernest	*A. G.*	*Rochester*
Landry, Ronaldo Aristide	*A. G.*	*Laconia*
Langlois, Marie Annette	*H. E.*	*Lebanon*
Lawrence, Charles Temple	*Pre-Med.*	*Manchester*
Lawrence, Louise Frances	*A. G.*	*Manchester*
LeBel, Valmore Raymond	*A. G.*	*Somersworth*
Leen, Mervin	*Gen. Bus.*	*New Bedford, Mass.*
LeRoy, Maurice Eugene	*Gen. Bus.*	*Stratham*
Littlefield, Albert Bartlett	*M. E.*	*Vineyard Haven, Mass.*
Locke, Edwin Ford	*E. E.*	*Amherst*
Locke, Marjorie Stella	*H. E.*	*Newton*
Locke, William Judson	*C. E.*	*Kittery, Maine*
Lombard, Everett Fisher	*Pre-Med.*	*Short Falls*
Loring, Richard Ryder	*A. G.*	*East Norwalk, Conn.*
Low, Allan Winthrop	*E. E.*	*Lexington, Mass.*
Lucier, Paul Auguste	*Gen. Bus.*	*Manchester*
McAllister, Robert Willis	*Agr.*	*Center Barnstead*
McCaffrey, Austin Joseph	*Pre-Law*	*Lincoln*
McCarthy, Daniel Francis	*Pre-Med.*	*Dover*
McCarthy, Mary Evelina	*A. G.*	*Manchester*
McGee, Frank Robert	*A. G.*	*Berlin*
McGivney, Ronald James	*E. E.*	*Berlin*
MacKay, Earle Lester	*E. E.*	*Concord*
McKenna, Charles Bernard	*A. G.*	*Cascade*
McLane, Arthur Findley, Jr.	*Agr.*	*Manchester*
McLaughlin, Dorothy Margaret	*H. E.*	*Greenland*
McLaughlin, Natalie Agnes	*H. E.*	*Durham*
MacLean, Alexander Fiske	*Chem.*	*Larchmont, N. Y.*
McLean, Arthur Franklin	*E. E.*	*Nottingham*
McLeod, James George	*A. G.*	*Laconia*

Name	Course	P. O. Address
McNally, Robert James	*Chem.*	*Concord*
Maddock, John Thomas	*M. E.*	*North Salem*
Mamos, Photius	*A. G.*	*Concord*
Mangurian, Genevieve Armen	*A. G.*	*Manchester*
Mannion, Richard Thomas	*Chem.*	*Concord*
Marelli, Charles James	*Educ.*	*Durham*
Marlak, Charles	*A. G.*	*Binghamton, N. Y.*
Marsh, Harvey Beaton	*C. E.*	*Colebrook*
Marshall, Warren Elmer	*Gen. Bus.*	*Manchester*
Marston, Charles Benning	*A. G.*	*Turners Falls, Mass.*
Martin, Gordon Mather	*Pre-Med.*	*Manchester*
Mason, Catharine Margaretta	*Educ.*	*Newmarket*
Mason, Charles Parker	*Pre-Med.*	*Winchester*
Matthews, Thomas Vernon	*Pre-Med.*	*Concord*
Maynard, George Arthur	*For.*	*Manchester*
Maynard, Nettie Alice	*H. E.*	*South Deerfield*
Meader, Richard Levi	*Pre-Law*	*Gonic*
Melnick, Charles Harrington	*A. G.*	*Laconia*
Merriam, Philip Gardner	*Pre-Med.*	*Stratford*
Merrill, Sylvia May	*A. G.*	*Etna*
Michael, Frederick William	*A. G.*	*Rochester*
Miller, Joseph Lewis, Jr.	*A. G.*	*Groton, Conn.*
Miller, Wilbur Hobart	*Chem.*	*Raymond*
Milliken, Janette Deborah	*A. G.*	*Freedom*
Mitchell, Eleanor Ruth	*H. E.*	*Exeter*
Mitchener, Allan Edward	*A. G.*	*Fremont*
Moody, Edwin Francis	*E. E.*	*Lebanon*
Moore, Byron Harvey	*A. G.*	*Manchester*
Morang, Ralph Waldo	*Agr.*	*Wiscasset, Maine*
Morris, Frank Albert	*E. E.*	*Newport*
Mott, Ralph Ernest	*Pre-Med.*	*Portsmouth*
Mountain, Harold Shirley	*C. E.*	*Berlin*
Mower, Natalie Richardson	*H. E.*	*Lebanon*
Mullen, Francis Edward	*Pre-Med.*	*Newmarket*
Mulligan, Mary Alexine	*Pre-Law*	*Dover*
Munson, Everett Reed	*Arch.*	*Concord*
Musgrove, Frank Richard	*A. G.*	*Hanover*
Nangle, Thomas Paul	*Pre-Med.*	*Rochester*
Nassikas, Mary Constance	*H. E.*	*Manchester*

Name	Course	P. O. Address
Newsky, John Lewis	*Gen. Bus.*	*Dover*
Nichols, Winfred Joslin	*M. E.*	*Mont Vernon*
Nielsen, Richard August	*C. E.*	*Plaistow*
Nixon, Robert Edward	*Gen. Bus.*	*Newfields*
Norton, Roy Carter, Jr.	*M. E.*	*Kittery Point, Maine*
Norton, William Alexander, Jr.	*Pre-Med.*	*Concord*
Nossiff, Vincent Peter	*A. G.*	*Dover*
Novak, Curtis Willie	*Arch.*	*Exeter*
Nutter, Elinor	*A. G.*	*Springdale, Conn.*
O'Neal, Roland Higginson	*E. E.*	*Hinsdale*
Ordway, Howard Eugene	*Pre-Law*	*Berlin*
Orgera, Louis Vincent	*A. G.*	*Stanford, Conn.*
Orr, John Dean	*A. G.*	*Concord*
Osgood, Elinor Storey	*A. G.*	*Newburyport, Mass.*
Osgood, Martha Phyllis	*A. G.*	*Pittsfield*
Page, Robertson	*A. G.*	*Concord*
Page, Samuel Rufus	*E. E.*	*Tilton*
Palmer, Edward Christopher	*Agr.*	*Plymouth*
Palmer, Jack Henry	*A. G.*	*Rochester*
Pariseau, Ronald Ray	*C. E.*	*Newport*
Parker, Alvin Howell	*M. E.*	*Attleboro, Mass.*
Parker, Richard Patterson	*C. E.*	*South Merrimack*
Parlin, John Oliver	*E. E.*	*Hampstead*
Parsons, Carl Ellsworth, Jr.	*Chem.*	*Weymouth, Mass.*
Peabody, Ralph Cortez	*M. E.*	*Manchester*
Pearson, Ethan Roland	*C. E.*	*Dover*
Peart, Elaine Catherine	*A. G.*	*Rochester*
Peart, Hilda Patricia	*A. G.*	*Rochester*
Peaslee, Marian Pauline	*Pre-Med.*	*Plaistow*
Pederzani, Guy Anthony	*A. G.*	*Nashua*
Perkins, James Abram	*A. G.*	*Rye Beach*
Perkins, John Henry, Jr.	*Gen. Bus.*	*Pittsfield*
Perkins, Mary Emerson	*A. G.*	*Rye Beach*
Peterson, Mildred Florence	*Phys. Ed.*	*Portsmouth*
Phillips, Marjorie Stevens	*H. E.*	*Lynn, Mass.*
Phillips, Warren Abbott	*C. E.*	*East Candia*
Pierce, Richard Donald	*A. G.*	*Goffstown*
Pinet, Lionel Alfred	*A. G.*	*Nashua*
Pinsince, Adrien Joseph, Jr.	*A. G.*	*Manchester*

Name	Course	P. O. Address
Platts, Kenneth Sulloway	*A. G.*	*Bristol*
Plummer, Clayton Robert	*E. E.*	*Lochmere*
Polk, Henry Jerome	*Pre-Law*	*Durham*
Powers, Nancy	*H. E.*	*Medford, Mass.*
Pratt, Margaret	*A. G.*	*Antrim*
Prescott, Richard Dean	*Pre-Law*	*Kensington*
Prince, Clyde Duane	*Chem.*	*Andover*
Provost, Leo Paul	*Arch.*	*Manchester*
Putney, Rosalind Ellen	*A. G.*	*Hopkinton*
Rafferty, Helen Winifred	*A. G.*	*Manchester*
Ranchynoski, Leon Anthony	*A. G.*	*Nashua*
Raymond, Edith Madeline	*A. G.*	*Laconia*
Redman, Doris Holway	*A. G.*	*Amherst, Mass.*
Reed, Ralph Kelsey	*Gen. Bus.*	*Rutherford, N. J.*
Ricard, Robert Ellwood	*Agr.*	*Canaan*
Richard, Philips Wells	*M. E.*	*Exeter*
Richard, Robert Boyd	*Pre-Med.*	*Nashua*
Robbe, Donald Chase	*M. E.*	*Nashua*
Robbins, Norman Cedric	*M. E.*	*Norwell, Mass.*
Robbins, Ralph Whitney	*M. E.*	*Keene*
Roberts, George William	*Gen. Bus.*	*Chocorua*
Roberts, Henry Edson	*Agr.*	*South Royalton, Vt.*
Roberts, Olive Louise	*H. E.*	*Dover*
Robinson, Arthur Weston, Jr.	*Educ.*	*Durham*
Robinson, James Miller	*Chem.*	*Antrim*
Rogers, Edward Macauly	*A. G.*	*Everett, Mass.*
Rollins, Spencer Shannon	*A. G.*	*Laconia*
Rosander, Aino Alice	*A. G.*	*New Ipswich*
Rose, William Richard	*A. G.*	*Portsmouth*
Ross, Charles Elden	*Agr.*	*Berlin*
Ross, James Otis	*For.*	*East Barrington*
Rowe, Marian Evelyn	*A. G.*	*Exeter*
Rowell, Charles Irving	*Chem.*	*Newport*
Rowell, Charlotte Pauline	*A. G.*	*Enfield*
Rudd, Ralph Corliss	*A. G.*	*Durham*
St. Laurent, Paul Roderick	*A. G.*	*Somersworth*
Sanborn, Flora	*H. E.*	*Brentwood*
Sanborn, William Henry	*Chem.*	*Seabrook*
Sanders, John Frank	*A. G.*	*Lakeport*

Name	Course	P. O. Address
Sargent, Ray Maxwell	*E. E.*	*Milford*
Sargent, Theron White	*E. E.*	*Raymond*
Savchick, Nicholas	*A. G.*	*Berlin*
Scannell, Humphrey Thomas	*Gen. Bus.*	*Manchester*
Schipper, William Fred	*C. E.*	*Portsmouth*
Seavey, Edward Seymour, Jr.	*Gen. Bus.*	*Hampton*
Shannon, Clarence Philip	*A. G.*	*Lexington, Mass.*
Shapleigh, Ruth Elaine	*H. E.*	*Kittery, Maine*
Sharps, Claud William	*Pre-Med.*	*Orford*
Shaw, Donald Adrian	*A. G.*	*Sandwich*
Shaw, George Edward	*E. E.*	*Sanbornton*
Shaw, Millicent Mae	*H. E.*	*Tilton*
Sheldon, Thetis Petty	*A. G.*	*Concord*
Shenton, Enoch	*Pre-Law*	*Concord*
Shorey, Seth Urban	*Chem.*	*Lancaster*
Shuman, Lena	*A. G.*	*Dover*
Shuman, Richard	*Pre-Law*	*Dover*
Silcox, Herbert Ernest	*Chem.*	*Durham*
Smiley, Paul Milton	*A. G.*	*Riverton, Conn.*
Smith, Caroline Eleanor	*A. G.*	*Durham*
Smith, Howard Wiley	*For.*	*Derry*
Smith, Raymond	*Pre-Med.*	*Derry*
Spear, John Tolman	*Agr.*	*South Acworth*
Spear, Pauline Georgiana	*Pre-Med.*	*Derry*
Spellman, Katherine	*A. G.*	*Concord*
Steele, Elsa Louise	*Pre-Med.*	*Portsmouth*
Stephenson, Glenn Harding	*A. G.*	*Derry Village*
Stevens, Martha Meriden	*H. E.*	*North Stratford*
Stevens, Robert Francis	*Hort.*	*Medfield, Mass.*
Stevens, Wayne Osburn	*A. G.*	*Auburn, Maine*
Stobie, William Lewis	*A. G.*	*Hooksett*
Stoloff, Elizabeth Ruth	*A. G.*	*Manchester*
Stone, Samuel Arthur	*Pre-Law*	*Claremont*
Stukas, Bernice Albina	*A. G.*	*Newton Junction*
Swain, Garwood Reuben	*A. G.*	*Pittsburg*
Swett, William Robert	*A. G.*	*Nashua*
Symonovit, Joseph William	*A. G.*	*Pelham*
Tarr, Charles Stockman	*C. E.*	*East Wolfeboro*
Tatem, James Birney, Jr.	*A. G.*	*Putnam, Conn.*

Name	Course	P. O. Address
Taylor, Miriam Madelon	*H. E.*	*Hinsdale*
Tecce, Chester Horace	*Agr.*	*Durham*
Thompson, Alice Monica	*A. G.*	*Whitefield*
Thompson, Edgar Stanley	*Chem.*	*Laconia*
Thompson, Russell Earle	*C. E.*	*Dover*
Thompson, William Joseph	*A. G.*	*Hampton*
Tibbetts, Robert Austin	*Educ.*	*Manchester*
Tinel, Leon	*A. G.*	*Manchester*
Tinker, Alvah Glidden	*C. E.*	*Nashua*
Tobin, Madelyn Frances	*A. G.*	*Manchester*
Toolin, Brendan Emmett	*A. G.*	*Richmond, Va.*
Towle, Harriet Nash	*A. G.*	*Exeter*
Trachier, James Archer	*For.*	*Hanover*
Traver, Paul Carlton	*Agr.*	*Raymond*
True, Nathalie Loring	*A. G.*	*Alton*
True, Robert Baxter	*Gen. Bus.*	*Fremont*
Tryon, Earl Haven	*For.*	*Portland, Maine*
Tucker, Ransom Edward	*A. G.*	*Warren, Vt.*
Tuttle, Frances Evelyn	*H. E.*	*Peterboro*
Varney, Bruce	*Agr.*	*Stratham*
Villanova, Elizabeth Antoinette	*A. G.*	*Rochester*
Wall, Elizabeth Ellen	*A. G.*	*Nashua*
Webster, David Kimball	*Chem.*	*Concord*
Weeks, Robert Edgar	*Chem.*	*Winchester*
Weeks, Walter Drury	*Agr.*	*Laconia*
Weir, William Franklin	*A. G.*	*Melrose, Mass.*
Welch, Albert Gallagher	*E. E.*	*Kennebunkport, Maine*
Welch, Carolyn Pemberton	*A. G.*	*Andover*
Welch, Norman Edward	*Gen. Bus.*	*Penacook*
Wellman, Muriel Justine	*A. G.*	*Durham*
Wheeler, Elmer Perley	*Chem.*	*Concord*
Wheeler, Raymond George	*M. E.*	*Wilton*
Wiggin, Earl Wesley	*Pre-Med.*	*Goffstown*
Wignot, Robert Lawrence	*C. E.*	*Dover*
Wilcox, Albert Monroe	*Arch.*	*Effingham*
Willett, Neil Ayers	*A. G.*	*New Durham*
Williams, Elisabeth Flora	*A. G.*	*Rochester*
Williams, George Clayton	*Educ.*	*Candia*
Willis, Samuel F. J.	*Pre-Law*	*Plymouth*

Name	Course	P. O. Address
Wiseman, Israel	*Pre-Med.*	*Dover*
Wolfson, Victor	*E. E.*	*Nashua*
Woodman, James Brown, Jr.	*For.*	*Franklin*
Woodward, Philip Leonard	*Gen. Bus.*	*Walpole*
Wright, Constance Elizabeth	*A. G.*	*Wilton*
Wright, Dexter Charles	*M. E.*	*Nashua*
Wright, George True	*Pre-Med.*	*Rochester*
Wright, Philip Lincoln	*A. G.*	*Nashua*
Yaloff, David Nathan	*A. G.*	*Laconia*
Young, Beulah Ellen	*A. G.*	*Sunapee*

SPECIAL STUDENTS

(Men 23; Women 7; Total 30)

Name	Course	P. O. Address
Boulanger, Edmee Adeline	*A. G.*	*Dover*
Burrows, Henry Morris	*Agr.*	*Short Hills, N. J.*
Carey, Francis Edward	*Gen. Bus.*	*Durham*
Conroy, John Joseph	*A. G.*	*Newport, R. I.*
Crockette, Guy	*A. G.*	*Salmon Falls*
Dallinger, William Stearns	*A. G.*	*Cambridge, Mass.*
Eustis, Richard James	*A. G.*	*Marblehead, Mass.*
Follansbee, Clarence LaForest	*Agr.*	*Durham*
Hanna, Charles Russell	*A. G.*	*West Swanzey*
Hawkes, Harold Melvin	*A. G.*	*Portland, Maine*
Hooper, Robert Wilkins	*Tech.*	*Sanbornville*
Hounsell, Elizabeth Jane	*A. G.*	*Salmon Falls*
Howell, Harold Alton	*A. G.*	*Dover*
Kirtland, Barbara	*H. E.*	*Exeter*
Laighton, Helen	*A. G.*	*Portsmouth*
Lowd, George Freeman	*A. G.*	*Springvale, Maine*
MacLellan, John Bailey	*Arch.*	*Woodsville*
Macfarlane, James C., Jr.	*A. G.*	*Durham*
Mauricette, Robert Edgerly	*Tech.*	*Dover*
Morse, Arthur Anthony, Jr.	*Agr.*	*Dover*
Sawyer, Russell DeWight	*Educ.*	*Concord*
Sheppard, Paul Beaufort	*Agr.*	*Dover*
Stankiewicz, Mitchell John	*Educ.*	*Newport*
Thorin, Ernest Gerald	*Tech.*	*Dover*

SPECIALS

Name	Course	P. O. Address
Vidito, Nathaniel Parker	*A. G.*	*Kingston*
Wark, David Leslie	*A. G.*	*Winchester*
Webber, Agnes Earle	*Educ.*	*South Eliot, Maine*
Wood, Harry Laurence	*A. G.*	*Providence, R. I.*
Woodbury, Laura Emma	*A. G.*	*Salem Depot*
Yeaton, Rose Dearborn	*A. G.*	*Tilton*

TWO YEAR AGRICULTURAL STUDENTS

First Year (24)
(Men, 24)

Name	P. O. Address
Barker, Levi Henry	*Stratham*
Caldwell, Winston Flanders	*Dover*
Cotton, Milo Edward	*Dover*
Fernald, John Thompson	*Nottingham*
Flagg, David White	*Winchester*
Gray, Leonard Walter	*Colebrook*
Herrick, Robert Sargent	*Hillsboro*
Hill, Fred Thomas	*East Concord*
Hill, Robert Cate	*Belmont*
Hobbs, John Raymond	*Somersworth*
Knight, Walter Baldwin, Jr.	*Dover*
Odell, Ernest Howard	*Amherst*
Page, Robert Edward	*Manchester*
Ricard, Robert Ellwood	*Canaan*
Roberts, Ormond Armstrong	*Dover*
Robinson, Walter Donald	*Exeter*
Sanborn, Elmer Emmons	*Hampton Falls*
Smith, Wilbur Frank	*Cleveland Heights, Ohio*
Spencer, Arnold Wesley	*Plymouth*
Stevens, Clarence Edgar	*Durham*
Tenney, Stanley Benjamin	*Antrim*
Weigel, Ernest William	*Durham*
Wheeler, Ralph Lincoln	*Wilton*
Worrad, Stanley Vincent	*Reeds Ferry*

Second Year (10)
(Men, 10)

Name	P. O. Address
Allard, Smith Clark	*North Conway*
Beale, Franklin Ambrose	*Enfield*
Cross, Harold Walter	*Colebrook*
Ekstrom, Roland George	*Nashua*
Fish, Robert Benjamin	*Peterboro*
Hart, Ira Everett	*Manchester*
Northrup, Sydney Kenneth	*Milford*
Rivers, Ernest William	*Lebanon*
Sanborn, Richard Favor	*Epping*
Walker, Lloyd Elmer	*Newmarket*

SUMMER SCHOOL, 1932

(Men, 209; Women, 182; Total, 391)

Name		P. O. Address
Adams, Constance L.		*Hampton*
Adams, Florence W.		*Newburyport, Mass.*
Adams, John H.	*N. H. '30*	*Keene*
Adams, Mildred P.		*Lowell, Mass.*
Adams, Raymond H.		*Concord*
Alexander, Mae C.	*Columbia '30*	*Brooklyn, N. Y.*
Allmon, Agnes L.	*Kent '29*	*Bergholz, Ohio*
Andrews, Virginia		*Rochester*
Armstrong, Avis A.		*Manchester*
Atherton, Dorothy G.		*Charlestown*
Atherton, Harlan E.	*Yale '25*	*Charlestown*
Atwood, Elizabeth	*N. H. '30*	*Pelham*
Atwood, William J.		*Wolfeboro*
Ayer, Theodore H.	*N. H. '29*	*Milton Mills*
Bailey, G. Rexford	*N. H. '21*	*Hartford, Conn.*
Baker, Dorothy M.		*Millers Falls, Mass.*
Baker, Wm. F.		*Cranston, R. I.*
Ball, Edna S.		*Laconia*
Ballou, James M.		*Keene*
Barnes, Gertrude A.		*Richmond, Mass.*
Batchelder, Eleanor F.	*N. H. '24*	*Portsmouth*
Batchelder, Walter E.		*Durham*

Name		P. O. Address
Bateman, Robert T.		*Concord*
Belanger, Irene M.		*Manchester*
Belcher, Richard G.		*Fairhaven, Mass.*
Bickford, Anna A.		*Greenland*
Bingham, Harold		*Nashua*
Biro, Helen B.		*Lowell, Mass.*
Bishop, Edward W.		*New Haven, Conn.*
Blackwell, Clyde R.		*Rochester*
Blagden, Phyllis		*Norfolk, Mass.*
Blair, Ellenor R.		*Rochester*
Blake, Irene P.		*Hampton*
Blake, Nelson M.	*Dartmouth '30*	*Gardner, Mass.*
Bodwell, Frances L.	*N. H. '31*	*Rochester*
Bosselait, Albert J.		*Greenville*
Boulay, Ernest A.		*Concord*
Boutwell, Ruth W.		*Lynn, Mass.*
Bowen, Fay L.		*Meredith*
Bowley, Harold C.	*Vermont '20*	*Epping*
Brannen, Malcolm D.		*Durham*
Briggs, James A.		*Hartford, Conn.*
Brockway, Weston H.	*Dartmouth '31*	*Penacook*
Brown, Anna B.	*Maine '08*	*Wentworth*
Brown, Heinz G.		*Durham*
Brown, James B.		*Concord*
Brunel, Sara L.	*N. H. '30*	*Concord*
Bryant, Harlan M.		*Milton*
Bryant, Marion S.		*Milton*
Burlingame, Philip R.	*N. H. '31*	*Milton*
Burrill, Guy F.		*Claremont*
Burton, Charles W.		*Concord*
Callahan, Robert		*Gloucester, Mass.*
Carter, Elizabeth		*Center Sandwich*
Cassell, Norman		*Dover*
Castello, Renato A.		*Haverhill*
Chace, Dorothy		*Dartmouth, Mass.*
Chandler, Roland F.	*N. H. '28*	*North Attleboro, Mass.*
Chandonnet, Leonie M.	*Wellesley '27*	*Manchester*
Charron, George O.		*Nashua*
Chase, Dorothy M.	*B. U. '25*	*Newburyport, Mass.*

Name		P. O. Address
Christophil, Theodore		*Manchester*
Clarke, Ida A.		*Farmington*
Clay, Malcolm		*Dover*
Clement, Edith M.		*Albany, N. Y.*
Clough, Henry P.	*Dartmouth '25*	*Mendon, Mass.*
Cochrane, Mildred M.		*Henniker*
Codaire, Charlotte E.		*Manchester*
Cohen, Celia F.		*Portsmouth*
Colbert, Maurice J.		*Mechanicville, N. Y.*
Colton, Rachel E.		*Dorchester, Mass.*
Conant, Ruth E.		*Portsmouth*
Cordes, Henry N.		*Valley Stream, L. I., N. Y.*
Cordes, May V.		*Valley Stream, L. I., N. Y.*
Corriveau, Elizabeth E.		*Melrose, Mass.*
Corson, Emerson		*Rochester*
Cote, Roderick		*Manchester*
Cottam, Leland B.		*W. Roxbury, Mass.*
Couser, Irene		*Dover*
Creath, Cecil V.	*Illinois '30*	*Sullivan, Ill.*
Creteau, Wilfrid W.		*Rochester*
Crockett, Guy		*Rollinsford*
Crosby, Helen E.		*Pittsfield*
Cull, Stanton		*Pawtucket, R. I.*
Cummings, Bernice M.		*Concord*
Cummings, Edward M.		*Concord*
Cummings, Leslie	*N. H. '26*	*Bethlehem*
Cunningham, Horace J.		*Berlin*
Currie, Wilsie A.	*N. H. '31*	*Durham*
Currier, George W.	*Colby '22*	*W. Lebanon*
Curtin, Neal W.		*Portsmouth*
Cutter, Helen A.		*Waltham, Mass.*
Cuzner, Helen E.		*N. Easton, Mass.*
Dana, Ernest B.	*Brown '28*	*Lebanon*
Danforth, Mildred	*N. H. '31*	*Berwick, Maine*
Darrah, Cynthia F.		*Mt. Vernon*
Davis, Della R.		*Keene*
Davis, Evelyn N.		*Needham, Mass.*

Name		P. O. Address
DeMontigney, Irene A.		*Nashua*
Dickinson, Louise A.	*N. H. '30*	*Rochester*
Dodge, Charles F.	*N. H. '22*	*Concord*
Dolloff, Thelma		*Plymouth*
Downing, Julia E.	*B. U. '29*	*Littleton, Mass.*
Drabble, George V.		*Holyoke, Mass.*
Duke, Cleon		*Manchester*
Durgin, Evangeline	*N. H. '30*	*Newmarket*
Eadie, W. Robert	*N. H. '32*	*Manchester*
Eastman, Clifford H.	*N. H. '28*	*Hampton*
Edmunds, Guy O.		*Dover*
Ekdahl, N. Marguerite		*Durham*
Evans, Beatrice L.		*North Stratford*
Ewing, Lyle W.	*McCormick '06*	*Claremont*
Farrington, Ervin S.		*Bucksport, Maine*
Farrow, L. Evelyn		*Taunton, Mass.*
Faunce, Gerald H.	*Rhode Island '28*	*Epping*
Fielding, Thomas		*Touisset, Mass.*
Files, Carolyn M.		*Meredith*
Flanagan, Katherine P.	*N. H. '28*	*Portsmouth*
Fletcher, Beulah C.		*St. Johnsbury, Vt.*
Flocken, Mary H.	*William Smith '21*	*Katonah, N. Y.*
Flocken, Robert H.		*Katonah, N. Y.*
Folsom, Edward S.		*Dover*
Foote, Lewis F.	*N. H. '25*	*Lincoln*
Fosher, Harold B.		*Bedford*
Foster, Virginia F.		*Manchester*
Freeman, Charles F.		*Concord*
French, Anna M.		*Exeter*
French, Penn		*Durham*
Gaffney, Edward J.		*Nashua*
Gardner, Hamilton M.		*Touisset, Mass.*
Garvin, Carl H.	*N. H. '26*	*Kingston*
Garvin, Mary		*Sanbornville*
Godfrey, Eloise R.		*May's Landing, N. J.*
Golding, Norman R.	*N. H. '21*	*Rockingham, Vt.*
Goodman, Ruth P.		*Portsmouth*
Goodrich, Ralph W.	*N. H. '32*	*Rochester*

Name		P. O. Address
Goss, Constance	*Vassar '28*	*Worcester, Mass.*
Goss, Robert B.		*Portsmouth*
Gould, Thomas D.		*Manchester*
Graham, Velma A.		*Saugus, Mass.*
Grant, Francis V.	*Colgate '21*	*Williamstown, Mass.*
Graves, John K.		*Concord*
Gray, Arthur		*Barnstead*
Gray, Wayne S.		*Colebrook*
Greene, Alice J.		*New York City*
Greene, Channing H.	*Middlebury '20*	*Rye*
Greene, Gerald G.		*New York City*
Greene, Maybelle J.		*Portland, Maine*
Greer, Edna		*North Stratford*
Grenier, Eva M.	*Wellesley '18*	*Manchester*
Griffin, Eleanor F.	*N. H. '31*	*Portsmouth*
Griffin, Kelsea	*N. H. '28*	*Manchester*
Hadley, Robert		*Manchester*
Hagerty, Norman A.		*Nashua*
Hale, Nathan S.		*Weathersfield, Mass.*
Haley, Harold E.		*Exeter*
Hall, Irene	*N. H. '22*	*Rochester*
Hall, Phillips R.		*Plymouth*
Hamel, Fernand A.		*Laconia*
Harmon, Linwood		*Durham*
Hartford, Chester P.	*Norwich '31*	*Portsmouth*
Hartwell, Lillian E.		*Nashua*
Haven, Gilman W.		*Reading, Mass.*
Haweeli, Edward H.		*Berlin*
Hawkes, Harold M.		*Portland, Maine*
Hayes, James H.	*N. H. '32*	*Wollaston, Mass.*
Hibbard, Blanche		*Penacook*
Hikel, Nolan G.		*Plymouth*
Hills, Clarissa	*N. H. '29*	*Hampton*
Hills, Florence A.		*Nashua*
Hirschner, Charlotte P.	*N. H. '29*	*Amesbury, Mass.*
Hodgson, Joseph		*Concord*
Holden, William		*Cornish*
Hollis, Lucie E. S.		*South Weymouth, Mass.*
Holmes, Iber B.		*Raymond*

Name		P. O. Address
Horton, Marjorie B.		*Dorchester, Mass.*
Howe, Chester W.		*Wolfeboro*
Howell, Cecil V.	*N. H. '29*	*Dover*
Hoyt, Park R., Jr.		*Laconia*
Humiston, John E.	*N. H. '18*	*Meredith*
Humphrey, Helen	*N. H. '27*	*Ipswich, Mass.*
Hunt, Henry	*N. H. '27*	*Farmington, Conn.*
Hutton, Eben B.	*Dartmouth '31*	*Concord*
Izzi, Emil		*South Barre, Mass.*
Jacobs, Marian		*Lancaster*
James, Henry J.	*Wesleyan '24*	*Simsbury, Conn.*
Jefferson, George D.		*East Rochester*
Johngren, Alton		*Walpole*
Johnson, Edna		*Hillsboro*
Johnson, Emily		*Georgetown, Mass.*
Johnson, Eva		*Whitehall, N. Y.*
Johnson, Gardner O.		*Gloucester, Mass.*
Johnson, Sylvia N.		*Bridgewater, Conn.*
Johnson, William D.	*N. H. '25*	*West Newbury, Mass.*
Jordan, Dana S.	*Bates '09*	*Littleton*
Joy, Roland E.		*Manchester*
Jubanyck, Josephine M.		*Camden, N. J.*
Kammerer, David E.		*Clayton, Mo.*
Kelleher, Josephine P.	*B. U. '29*	*Dorchester, Mass.*
Kelleher, Molly V.		*Dorchester, Mass.*
Kelley, Edith		*Dover*
Kelly, Mary G.	*Tufts '30*	*Portsmouth*
Kerwin, John		*Manchester*
Kilton, Margery L.		*West Lebanon*
King, William		*North Walpole*
Kropp, Frank J.		*Tilton*
Lamy, Robert		*Rochester*
Lanouette, Gabrielle P.		*Milford*
Lavalle, Hubert A.		*Berlin*
Lavoie, Lionel D.		*Manchester*
Leach, Paul S.		*Nutley, N. J.*
Leahy, Roland		*Franklin*
Lester, Bernice	*N. H. '31*	*Ipswich, Mass.*
Lewis, John B.		*Durham*

Name		P. O. Address
Littlefield, Robert	*Maine '22*	*Gardner, Mass.*
Lobdell, Lucius V.	*Colby '31*	*Meriden*
Lorden, Earl E.	*N. H. '21*	*Gerrish*
Lundelin, Helvi J.		*Quincy, Mass.*
McCallister, Norman S.	*Bates '31*	*Rochester*
McClarence, Maxine F.		*Henniker*
McCooey, John E.		*Dover*
McCooey, Mary	*N. H. '26*	*Dover*
MacDonald, Jean	*N. H. '32*	*Brookfield, Mass.*
MacDonald, John A.		*Yonkers, N. Y.*
MacDonald, Kathleen J.		*Greenfield, Mass.*
MacDonald, Mary E.	*Smith '09*	*Hartford, Conn.*
McFadden, Albert E.		*Dover*
McGeary, Anna M.		*May's Landing, N. J.*
McGinness, James J.		*Troy*
McGlynn, Kathryn		*Nashua*
McNeill, Alice		*Lebanon*
McNutt, Mary E.	*N. H. '32*	*Durham*
MacPhee, Gladys E.	*Simmons '16*	*Bristol*
Macdonald, Ruth K.		*Providence, R. I.*
Macken, Mary M.		*Millers Falls, Mass.*
Maher, Anna L.	*Wellesley '31*	*Framingham, Mass.*
Mahoney, Cecelia M.	*Brown '20*	*Hanover*
Maki, Hjalmar S.	*N. H. '26*	*New Ipswich*
Manley, L. Josephine		*Claremont*
Mann, Frederic W.	*N. H. '25*	*East Concord*
Mann, Harriet L.	*Oglethorpe '27*	*East Concord*
Martin, Mary F.		*Warner*
Metcalf, Clarence		*Alstead*
Meyer, Irma M.		*Camden, N. J.*
Michael, Frederick W.		*Rochester*
Miles, Maud A.		*Concord*
Miller, Flora	*Conn. '20*	*Segreganset, Mass.*
Montgomery, Hugh		*Portsmouth*
Moody, Earle	*Norwich '29*	*Orange, Mass.*
Morin, Mary J.		*Rochester*
Morrill, Edith	*Simmons '16*	*Manchester*
Morse, Claude V.		*Keene*
Moyer, Helen A.		*Palmerton, Pa.*

Name		P. O. Address
Moyer, Stella S.		*Palmerton, Pa.*
Muggleston, Harold W.		*Rochester*
Murphy, John F.		*Manchester*
Muzzey, George A.	*Maine '25*	*Fairfield, Maine*
Naughton, Helen		*North Adams, Mass.*
Nerbonne, Maurice		*Manchester*
Newcomb, Stanley S.		*Orange*
Nickerson, Ruth	*Simmons '28*	*Needham, Mass.*
Ninde, David C.		*Durham*
O'Gara, Edward		*Hanover*
Osgood, Agnes E.	*Colby '26*	*Pittsfield*
Otis, Everett H.	*Tufts '22*	*Rockingham, Vt.*
Palmer, Mildred L.	*Smith '32*	*Durham*
Palmer, Walter H.		*Salem*
Panagoulis, George J.		*Nashua*
Parsons, Marjorie		*Colebrook*
Passow, Camilla	*Columbia '22*	*New York City*
Patenaude, Duaine T.		*Henniker*
Pelletier, Ernest J.		*Nashua*
Pendergast, Annetta D.		*Newmarket*
Penley, Howard D.		*Portland, Maine*
Perkins, Ernest M.	*N. H. '30*	*Hanover*
Pickwick, Mary A.		*Manchester*
Pike, Louise E.		*Milton Mills*
Pike, Marion L.		*Concord*
Pike, Philip H.		*Concord*
Pinska, Josephine M.		*Manchester*
Piper, Bertha L.		*Amherst*
Plante, Mabel F.		*Grasmere*
Pond, Alice H.		*West Haven, Conn.*
Priest, Clayton W.		*Manchester*
Priest, Leona F.	*N. H. '30*	*Newmarket*
Pritchard, Charles	*N. H. '28*	*Manchester*
Pritchard, Florence G.		*Fall River, Mass.*
Prowell, Elizabeth M.		*Berlin*
Randall, Frank G.		*Portsmouth*
Randall, John L.		*Dover*
Reed, Ethel		*Claremont*
Rice, Lee L.	*N. H. '24*	*Durham*

Name		P. O. Address
Ricciardi, Richard S.	*N. H. '28*	*Milford*
Rintz, Irma L.		*Portsmouth*
Ritchie, Sidney R.		*Portsmouth*
Roberts, Harold	*Harvard '31*	*Northampton*
Robinson, Frances E.	*N. H. '31*	*Durham*
Rockwood, Helen M.		*East Kingston*
Rogers, Muriel C.		*Gloucester, Mass.*
Rowley, Priscilla A.		*Fitchburg, Mass.*
Rumazza, Edward F.	*N. H. '23*	*Rochester*
Rumazza, Orestes L.		*Rochester*
Russell, Florence		*Exeter*
Ryan, Elsa	*N. H. '32*	*Exeter*
Ryan, Mary E.		*Fall River, Mass.*
Ryder, Miriam		*Plaistow*
Saliba, Moses A.		*Plymouth*
Sanderson, Brooks A.		*Providence, R. I.*
Saunders, Louise O.		*Durham*
Schofield, Wilbrum R.		*North Attleboro, Mass.*
Seaver, Leslie W.		*Marlboro*
Seavey, Donald B.		*Milford*
Seaward, Helen P.		*Manchester*
Sheehan, Eleanor L.	*N. H. '30*	*Portsmouth*
Sinclair, John	*Bates '04*	*Warner*
Smith, Hazel M.		*Concord*
Smith, Malcolm		*Mechanic Falls, Maine*
Smith, Russell C.		*Whitefield*
Smith, William R.		*Bernardsville, N. J.*
Snow, Dorothy		*Keene*
Spalding, Willard B.		*Hanover*
Starke, Margaret M.		*Lawrence, Mass.*
Stenzel, F. Robert		*Portland, Oregon*
Sterling, Wm. C.	*N. H. '31*	*New London*
Stermer, Joseph E.	*Gettysburg '11*	*Upper Darby, Pa.*
Stermer, Sallie O.		*Upper Darby. Pa.*
Stevens, Nancy F.		*Somersworth*
Stevens, Robert H.	*Yale '29*	*East Orange, N. J.*
Stewart, Margaret	*Olivet '15*	*Pontiac, Mich.*
Stewart, Thomas A.	*N. H. '30*	*Derry*
Stokes, Elizabeth	*Bates '31*	*Rochester*

Name		P. O. Address
Stork, Gladys B.		*North Adams, Mass.*
Stratton, Mildred G.		*Nashua*
Streeter, Caroline M.		*Exeter*
Streeter, Lewis J.		*Keene*
Sullivan, Catherine F.		*Manchester*
Sullivan, M. Lillian		*Nashua*
Summerville, George H.	*N. H. '26*	*Manchester*
Summerville, Hazel M.	*N. H. '24*	*Manchester*
Surowiec, Edward J.		*Franklin*
Sutthill, Helen I.	*B. U. '32*	*Norwich, Conn.*
Swail, Clark		*Colebrook*
Swett, Edith C.		*Andover*
Sykes, Paul W.	*Trinity '31*	*Northwood*
Taylor, Philip L.		*Windsor, Vt.*
Tebbetts, Florence M.		*Nashua*
Terrill, Roy L.		*Keene*
Theodos, Mathew R.		*Manchester*
Thompson, Marion L.		*Newton*
Thompson, Myrtle A.		*Durham*
Tingley, Mary		*Amherst*
Tobey, Alfred R.		*Peterborough*
Truell, Harold A.	*N. H. '30*	*Newport*
Turcott, Dixon H.		*Concord*
Valentine, Belle G.		*Concord*
VanPelt, Alma B.		*Brookline*
Varner, Laura		*Carlisle, Pa.*
Varney, Robert W.		*Dover*
Vogler, Ethel		*Somersworth*
Waldron, Eleanor R.		*Taunton, Mass.*
Walker, James B.		*Dover*
Walsh, Thomas J.		*Edwardsville, Pa.*
Wastcoat, Virginia		*Taunton, Mass.*
Watkins, Thomas W., Jr.		*Amesbury, Mass.*
Watson, Margaret T.		*Keene*
Webber, Ruth L.	*N. H. '27*	*Springvale, Maine*
Weeman, Gordon W.		*Eliot, Maine*
Wellman, Muriel J.		*Durham*
Wells, Lloyd L.		*Woodsville*
Wentworth, Irene M.	*N. H. '27*	*Somersworth*

Name		P. O. Address
Weston, Ruth L.		*Keene*
Wheelock, Howard E.	*N. H. '32*	*Keene*
White, Silas W.		*Fitzwilliam Depot*
Wiggin, Ralph E., Jr.		*Dover*
Wight, Villa E. H.	*B. U. '22*	*Boscawen*
Wilbur, Mary E.		*Dover*
Williams, Ralph H.		*Lebanon*
Winslow, Everett M.		*Dover*
Witham, Ruth L.		*Keene*
Woodman, Robert G.	*St. John's '32*	*Tenafly, N. J.*
Woods, Wadleigh W.	*Dartmouth '27*	*Portsmouth*
Woodward, Florence D.		*Berlin*
Wooldridge, Sydney M.		*Laconia*
Wright, James M.		*Rochester*
Wright, Stanley W.	*N. H. '30*	*Goffstown*
Wright, Wilbur A.		*New Bedford, Mass.*
York, Charles L., Jr.		*Plymouth*
Young, Olive L.		*Manchester*
Zellars, Esther B.	*Smith '27*	*Wallingford, Conn.*
Zolkos, Stasia B.		*Pelham*

COMPARATIVE REGISTRATION

	Regular Curricula	Summer School and Short Curricula*	Men	Women	Total
1893–94	64	..	54	10	64
1894–95	93	15	78	30	108
1895–96	83	29	80	32	112
1896–97	88	17	79	26	105
1897–98	82	50	90	42	132
1898–99	82	10	79	13	92
1899–1900	86	33	103	16	119
1900–01	93	32	115	10	125
1901–02	102	29	125	6	131
1902–03	103	18	117	4	121
1903–04	110	24	126	8	134
1904–05	123	36	151	8	159
1905–06	154	41	183	12	195
1906–07	172	38	196	14	210
1907–08	183	20	188	15	203
1908–09	198	33	218	13	231
1909–10	193	55	312	16	328
1910–11	207	73	249	17	280
1911–12	231	84	285	22	315
1912–13	259	95	306	30	354
1913–14	300	103	322	63	403
1914–15	387	131	405	87	518
1915–16	461	192	505	113	653
1916–17	574	92	514	152	666
1917–18	530	32	399	163	562
1918–19†	593	14	439	168	607
1919–20	774	44	631	187	818
1920–21	845	46	682	209	891
1921–22	907	66	759	214	973
1922–23	1,036	161	922	275	1,197
1923–24	1,154	175	993	336	1,329
1924–25	1,202	229	1,029	402	1,431
1925–26	1,347	267	1,143	471	1,614
1926–27	1,467	317	1,217	567	1,784
1927–28	1,658	306	1,277	626	1,903
1928–29	1,553	365	1,294	624	1,918
1929–30	1,586	367	1,285	668	1,953
1930–31	1,579	382	1,297	664	1,961
1931–32	1,586	437	1,354	669	2,023

*Includes Summer School, Two-Year Agriculture, Poultry Extension and Dairy Short Curricula.

†During 1918–19 there were 1,467 additional men registered for special military work under the S. A. T. C. organization.

SUMMARY OF REGISTRATION, 1931–1932

College	Agriculture									Liberal Arts								Technology								Graduate			Grand Total		
Regular Curricula (Class)	General	Teacher Tr.	Poultry Husb.	Animal Husb.	Dairy Husb.	Forestry	Horticulture	Agric. Chem.	Total	General	General Bus.	Pre-Law	Pre-Med.	Physical Educ.	Education	Home Economics	Total	Arch.	Chem. Engr.	Civil Engr.	Elec. Engr.	Mech. Engr.	Indus. Engr.	General	Total	Men	Women	Total	Men	Women	Total
Senior—Men	6	1	..	1	2	6	1	2	19	78	28	9	9	..	9	..	133	7	11	12	17	13	8	..	68	...	..	...	220	...	220
Women	..	..	..	..	..	..	..	..	...	64	4	..	..	2	13	15	98	..	..	..	..	..	..	..	...	...	..	...	....	98	98
Total	6	1	..	1	2	6	1	2	19	142	32	9	9	2	22	15	231	7	11	12	17	13	8	..	68	...	..	...	220	98	318
Junior—Men	8	1	1	1	3	4	2	1	21	57	31	7	17	..	11	..	123	6	11	15	17	23	..	..	72	...	..	...	216	...	216
Women	..	..	..	..	..	..	1	..	1	77	2	..	..	2	3	22	106	..	..	..	..	..	..	..	...	...	..	...	....	107	107
Total	8	1	1	1	3	4	3	1	22	134	33	7	17	2	14	22	229	6	11	15	17	23	..	..	72	...	..	...	216	107	323
Sophomore—Men	10	2	2	..	..	14	2	4	34	80	35	5	29	..	13	..	162	16	22	26	27	24	..	..	115	...	..	...	311	...	311
Women	..	..	..	..	..	..	..	..	...	75	3	..	2	4	10	26	120	1	..	..	..	..	..	..	1	...	..	...	....	121	121
Total	10	2	2	..	..	14	2	4	34	155	38	5	31	4	23	26	282	17	22	26	27	24	..	..	116	...	..	...	311	121	432
Freshman—Men	32	..	..	..	..	11	..	..	43	183	...	3	17	..	..	..	203	6	23	18	17	16	..	66	146	...	..	...	392	...	392
Women	..	..	..	..	..	..	..	..	...	91	...	1	2	..	..	22	116	1	..	..	..	..	..	..	1	...	..	...	....	117	117
Total	32	..	..	..	..	11	..	..	43	274	...	4	19	..	..	22	319	7	23	18	17	16	..	66	147	...	..	...	392	117	509
Special—Men	3	..	..	..	..	..	..	..	3	21	...	..	..	..	..	..	21	..	..	..	..	..	..	4	4	...	..	...	28	...	28
Women	..	..	..	..	..	..	..	..	...	28	...	..	..	..	..	..	28	..	..	..	..	..	..	1	1	...	..	...	....	29	29
Total	3	..	..	..	..	..	..	..	3	49	...	..	..	..	..	..	49	..	..	..	..	..	..	5	5	...	..	...	28	29	57

| | | |

UNIVERSITY OF NEW HAMPSHIRE
ALUMNI ASSOCIATION

The Alumni Association expects all two-year and four-year graduates to become active members, and all former students to become associate members of the Alumni Association. The dues, together with subscription to *The New Hampshire Alumnus*, are $2.00 per year, payable in advance.

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